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Entomological
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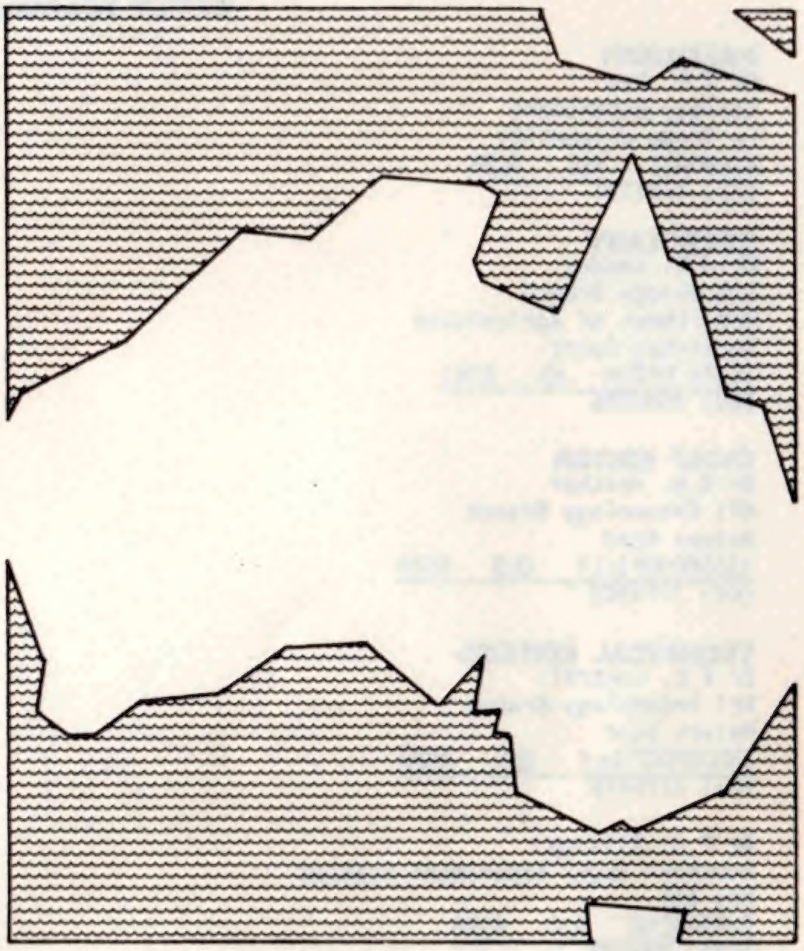

NEWS BULLETIN

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AUSTRALIAN ENTOMOLOGICAL SOCIETY
NEWS BULLETIN

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In addition loose inserts supplied by the Advertiser will be included for $50 per issue. These should be of a size which will not project beyond the pages of the Bulletin.

EDITORIAL

ACRONYMS ANONYMOUS

With every proof-reading of a new issue of the Bulletin (yes, we do proof-read it!) it seems to me that our use of acronyms in entomology multiplies. Some are used with such regularity and familiarity that we often forget what they originally stood for. For example, how many of the following do you really comprehend: "After completing his PhD on RCDF funds in the RSBS at ANU on effect of OP-compounds on LBAM CNS he joined BSES and gained DFW-approved ACIAR support to visit ICIPE, MAFF, UCLA and USDA before taking in the Vancouver ICE where he noted high interest in the next IOE being compiled by CSIRO's ANIC back in OZ".

ACIAR is perhaps the most frequently used and least understood one and Paul Ferrar spells it out in full on p. 121 of this issue. In the next issue I will provide a glossary of acronyms pertinent to Australian entomology. Send me your suggestions for the list now.

Don't forget the Bulletin is here to help you communicate your message to other entomologists. If you are planning a workshop, meeting, conference, field day, equipment demonstration, trade display or whatever let me know the details and we'll spread the word. If you have a "Research Request" that could have filled the space around Juleen's on p. 124 then now is the time to send it in.

Geoff Monteith
News Bulletin Editor

DEADLINE FOR NEXT ISSUE

Material for publication in the November issue of the News Bulletin should be in the hands of the News Bulletin Editor, Geoff Monteith, at his address on the inside of the front cover by Friday, October 21.

EXECUTIVE QUARTERLY REPORT

TRANSFER OF EXECUTIVE

Since the previous report, the Executive has transferred to the West. The transition has been smooth thanks to the excellent co-operation of all concerned.

MEETINGS

The final meeting of the Canberra-based Executive was held on May 10. Executive meetings were held in Perth on June 14 and July 18.

EXECUTIVE NEWS ITEMS

New Executive

The new Perth-based Executive has settled down to business with enthusiasm and high hopes for the future. The first Executive Meeting in Perth lasted almost 4 hours but we hope to improve our efficiency as time goes on.

We are grateful to all who have helped to make the transition relatively painless. The Secretary would welcome feedback or enquiries on any matter from members.

ANZAAS Conferences

The practice of running Annual General Meetings in association with ANZAAS Conferences was discussed at the 19th AGM and at the 35th and 36th Council Meetings. The Executive has since decided that no special effort will be made to do so in future. Individual Conference Organising Committees who see some benefit in such an arrangement are free to do so however, if the opportunity arises. The decision was based on a number of considerations, including the fact that the Society's conferences are successful and well attended, belying the need to increase their attractiveness to members.

Conservation Committee

The Conservation Committee has been active in a number of areas, particularly in the debate concerning the Lemonthyme and Southern Forests enquiry. A letter has been sent by the Society to the Minister for Arts, Heritage, the Environment, Tourism and Territories expressing its concern. The Society reiterated that concern in a press release in early June.

Conservation Education

The Society's role in conservation education was raised at the 36th Council Meeting. The Executive is currently discussing with the Conservation Committee avenues through which the Society can make a contribution in this area.

MEMBERSHIP

The Executive accepted 10 nominations for membership and elected 7 new members. The distribution of members is as follows:

QLD 172	VIC 92	TAS	26
NSW 147	SA 71	NT	15
ACT 120	WA 38	O/SEAS	54
		ADDRESS UNKNOWN	5

Membership by categories is:

Full	567	Honorary	6
Student	87	Joint	20
Retired	60	TOTAL	740

MISSING MEMBERS

Mail has been returned from the following members marked "address unknown". The Secretary would be pleased to hear from anyone who knows their whereabouts.

Mr M. Cahill (formerly of NSW)
Schering Pty Ltd (formerly of Kensington, NSW)

NEW MEMBERS

We welcome the following new members:

Elected May 10, 1988

Mr C.J. Burwell, BSc, Department of Entomology, University of Queensland, St Lucia, QLD 4067. Christopher is a full-time BSc Honours student, working on the taxonomy of Diptera.

Mr P. Flower, BSc, 11 Dutton Park, QLD 4101. Paul is an Honours student in the Department of Australian Environmental Studies at Griffith University.

Mr R.S. Tozer, W.D.A., 41 Botticelli Street, Fig Tree Pocket, QLD 4069. Robert is an S.T.O. in the CSIRO, and is concerned with insect pests of livestock, such as screw-worm fly and buffalo fly.

Dr E.J. Wright, BSc, MSc, PhD, CSIRO Division of Entomology, GPO Box 1700, Canberra, ACT 2601. Jane is a Research Scientist with interests in insect ecology, biological control and behaviour.

Elected June 14, 1988

Mr M.M. Hunting, BEng(Civil), EWS(Vic), 29 Paloma Street, South Oakleigh, VIC 3167. Mark is a civil engineer who is interested in the collection, distribution, ecology and taxonomy of Lepidoptera and Coleoptera.

Elected July 18, 1988

Mr W.M. Doherty, BAgrSc, c/- 141 Sackville Street, Greenslopes, QLD 4120. Bill is an entomologist who has very recently joined Agrisearch Services Pty Ltd in Queensland as a Project Officer. He has worked on the biological control of various insects for several years.

Miss J.M. Erbacher, BAppSci, 119 Mountain Street, Mt Gravatt, QLD 4122. Jean is a research assistant at the Entomology Department of the University of Queensland working on attractants for Heliothis.

ADDRESS CHANGES

Mr R.M. Bull, Rhone Poulenc Rural, PO Box 335, Hamilton, QLD 4007 (QLD).

Mr W.E. Frost, CALM Research Centre, Brain Street, Manjimup, WA 6258 (SA).

Mr B.S. Hacobian, 7/205 Albany Street, Gosford, NSW 2250 (NSW).

Dr J.G. Hamilton, CSIRO Cotton Research Unit, PO Box 59, Narrabri, NSW 2390 (O/S).

Mr M.A. Heap, PO Box 2746, Mount Gambier, SA 5290 (SA).

Dr P.M. Ives, Department of Entomology, University of California, Davis, CA 95616, USA (O/S).

Mr D.C. Lake, c/- Madang Teachers College, Science Department, PO Box 218, Madang, Papua New Guinea (QLD).

Mr A.S. Molyneux, 10 Robert Street, Ebbw Vale, QLD 4304.

Mr G.D. Murphy, 2351 First Street, Burlington, Ontario L7R 1C2, Canada (VIC).

Dr C. Peeters, School of Biological Science, University of NSW, PO Box 1, Kensington, NSW 2033 (NSW).

Dr G.C. Webb, 17 Araba Street, Aranda, ACT 2614 (VIC).

Mr P.J. Wilson, 11/492-500 Elizabeth Street, Surry Hills, NSW 2010 (NSW).

Mr D.K. Yeates, WA Department of Agriculture, Baron-Hay Court, South Perth, WA 6151 (QLD).

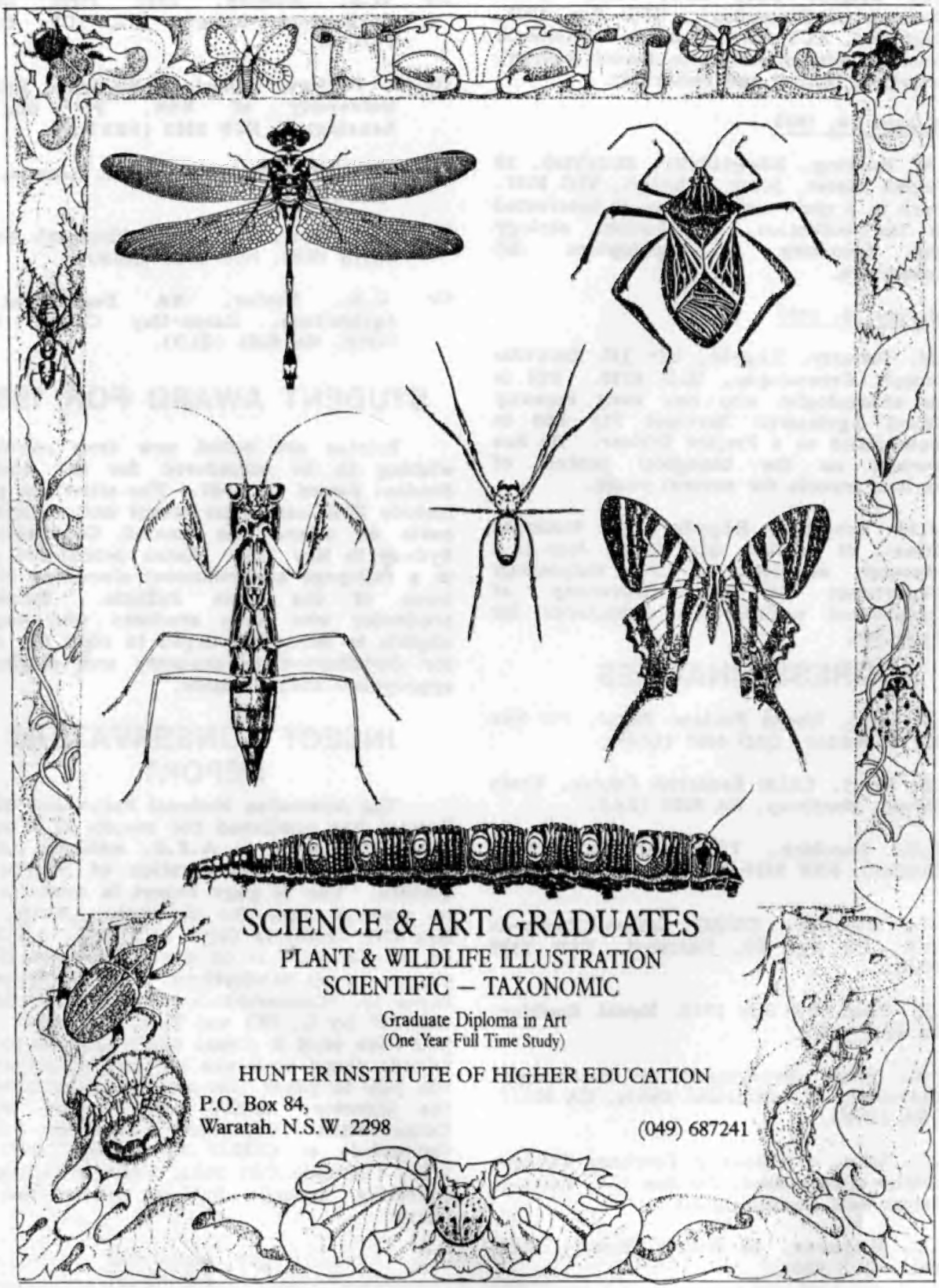
STUDENT AWARD FOR 1989

Entries are called now from candidates wishing to be considered for the Society's Student Award for 1989. The attractive prizes include $250 cash plus travel and registration costs to attend the Annual Conference in Sydney in May 1989. Extra details are given in a full-page advertisement elsewhere in this issue of the News Bulletin. University academics who have students who may be eligible to enter are urged to copy the notice for distribution to students and display on appropriate notice-boards.

INSECT CONSERVATION REPORT

The Australian National Parks and Wildlife Service has published the results of a survey letter that went to A.E.S. members late in 1984 concerning conservation of invertebrate wildlife. The 40 page report is available free on request from the Director, ANPWS, GPO Box 636, Canberra City, ACT 2601, but hurry as the pressure is on government agencies to charge for all publications. Ask for Occasional Paper 13, "Conservation of Insects and Related Wildlife" by L. Hill and F.B. Michaelis. Once you have read it please don't grumble to your friends about what was left out or got wrong. Put pen to paper and send your criticisms to the Director, ANPWS and a copy to our Conservation Committee convenor Penny Greenslade at CSIRO Entomology, GPO Box 1700, Canberra City 2601. Habitat degradation currently exceeds habitat conservation, so hurry!

Lionel Hill
Devonport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REGIONAL NEWS

AUSTRALIAN CAPITAL TERRITORY

CSIRO Entomology

The Division in Canberra is holding its biennial 'Open Days' from Friday-Monday 16-19 September. These prove to be very popular with the local community. This year, other Divisions on site (Plant Industry, Water Resources Research, Soil and Environmental Mechanics) will also participate. If you are in Canberra, drop in.

You would think with all that expertise ... The Division in Canberra has been beseiged by a plague of cockroaches. The local newspaper was quite amused that we had to bring in professional pest control agents to rid us of them after no one in the Division could provide a solution (or a bait).

Congratulations to Doug Waterhouse (now with ACIAR) who recently won the principal award in a 'Contributor to Agriculture' campaign to commemorate Australia's bicentennary. The award, given by the Royal Agricultural Society of NSW, was in recognition of Dr Waterhouse's involvement in many entomological programs of importance to agriculture.

E.S. Delfosse attended the 7th International Symposium on Biological Control of Weeds, held in Rome, 5-15 March where he delivered two papers on his Australian work. Del will also be the editor of the Proceedings. After the symposium he reviewed the work of the Biological Control Unit (CSIRO) at Montpellier. The exciting news is that Sirj Hasam has finished the host specificity testing of Uromyces heliotropii, an extremely promising pathogen for common heliotrope. Carey Smith has now located field sites for all the possible control agents of Paterson's curse so she is ready to go when we get permission to import. Del will report on this program and the biological control legislation next issue. In the USA, Del had discussions with the USDA and with University of California staff on the possible biological control of Amsinckia (yellow burr weeds).

During April, Joanne Daly attended a workshop held at Rothamsted on 'The use of electrophoresis to study agricultural pests'. Afterwards she visited Rothamsted and University of Reading to discuss insecticide resistance in Heliothis. Max Whitten delivered the 2nd Jan de Wilke memorial lecture at the Agricultural University, Wageningen, Netherlands.

Barry Longstaff spent six weeks before the Vancouver Congress visiting the Stored Products Laboratories in Savanna, Georgia, Manhattan, Kansas and at Winnipeg, in Canada, advising on population modelling of stored grain insects. This trip was partly funded by USDA and Agriculture Canada.

Juleen Cavanaugh has recently returned to Canberra after three years at North Carolina State University studying with Professor Ron Stinner. Her Master's thesis was entitled 'Biological investigations of two populations of Macrocentrus grandii (Hymenoptera : Braconidae), a parasitoid of Ostrinia nubilalis (Lepidoptera: Pyralidae)'. She and Ebbe Neilsen have commenced a project on the distribution of tineid (wool) moths in Australia. The project is in colloboration with the Division of Wool Technology who have recently received funding from Australian Wool Corporation for studies on insect proofing of wool (see her request for live specimens elsewhere in the Bulletin).

May was the month of AGM's. Members of the Division attended the Australian Entomological Society meeting at University of Queensland, the Australian Genetics Society meeting at La Trobe, and the Mass Spectrometry meeting held by the Australian and New Zealand Association for Mass Spectrometry (Brisbane). Professor Alan Templeton, Washington University, St Louis, gave a very stimulating talk at the Division in May on 'The meaning of species and speciation: a genetic perspective'. Professor Templeton was visiting Australia as a guest of the Australian Genetics Society.

Michael Lenz had a consultancy with South Pacific Commission and ADAB during May-July on the Cook Islands to investigate the problems of coconut termite damage to coconut palms. Although his time was limited, he was able to suggest a number of possible control measures which hopefully will be implemented with some general guidance from the termite group in Canberra.

The 18th International Congress of

Entomology was held in Vancouver 3-9 July. Three symposia were organized by members of the Division: 'Molecular biology, genetic engineering and its relevance to pure and applied entomology' (organiser; Max Whitten, invited speaker: Rob Saint); 'The physiology of the insect epidermis (co-organiser: Keith Binnington), 'Bionomics of tephritid fruit flies (organiser: Brian Fletcher). Barry Longstaff, Jane Wright, Rod Mahon and Joanne Daly from Canberra also delivered papers at the meeting (see below for the ANIC folk). The congress was well-organized and despite the large number of people in attendance (about 3500) it was not difficult to renew acquaintances because most people gravitated to the 'beer-tent' which was for the exclusive use of congress delegates. The University of British Columbia certainly provided a magnificent setting.

Peter Cooke is overseas at University of Indiana, Bloomington, for twelve months from 1 June on a CSIRO post-doctoral fellowship. Peter is trying to purify the carboxyesterases involved in insecticide resistance in Lucilia cuprina and is working with Dr Rollin Richmond.

The Division hosted a joint workshop with DSIR on 'Applications of pheromones to pest control', 11-14 July. About forty people attended the meeting from CSIRO, DSIR, State Departments of Agriculture, agricultural research centres, universities and commercial companies. Dr Chris Sanders, Canadian Forestry Service, Ontario spoke on 'Wind tunnel experiments in the mating disruption of the spruce budworm: a case history'. Dr Tom Baker, UC Riverside, California, spoke on 'Adaptation, habituation and behaviour: simple sensory events may have profound effects on male moths'. Two other visiting scientists at the meeting were Dr B. Frerot from INRA, Domaine de Brouessy, France (currently with DSIR, Auckland) and Dr P.G.N. Njagi, International Centre of Insect Physiology and Ecology, Nairobi, Kenya (currently with Martin Rice, University of Queensland). Thanks go to Chris Whittle, Richard Vickers and Tom Bellas who organised the meeting. By all accounts it was a very successful workhop.

CSIRO, Australian National Insect Collection

ANIC seems to be in Brownian motion, with the first moves into the new building taking place. As yet, the building lacks compactors and a name: efforts are being made to solve both simultaneously in a search for a sponsor. International movements include Ebbe Nielsen and Marianne Horak attending the Vancouver Congress en route for the Stockholm Willi Hennig meeting and further adventures in Europe. Ian Naumann and Tom Weir contrived to aovid Canberra's damp, cold start to winter by helicoptering aroud the isolated rain forest patches of the Kimberleys and Pete Cranston dabbled in the billabongs and creeks of the Alligator Rivers region at the same time. Shelly Rozario is burning the candle making slides of the resultant Kakadu chironomid collections while continuing her ANU/CSIRO studies.

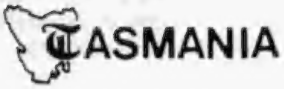
Jo Cardale returned rested and recuperated after her long service leave ready to take on the mammoth task of indexing the (imminent ...) 'Insects of Australia' - merit leaves should be given on completion! Ross Crozier gave a seminar on molecular systematics and both Pete Cranston and Dave Rentz have given illustrated travelogues: Dave's featured beautiful photographs of the Orthoptera seen in his wet season trip to northern Queensland. Over at the ANU Staff Club the cladists' after hours discussion group has ranged over assessment of adaptation, monophyletic taxa and the quality of the Coopers. Entomological participants only slightly outnumber the increasing botanical contribution thanks to Penny Gullan's clutch of students. John Lawrence, burdened by disparate views on fossil insects and their contribution to phylogeny (yes, 'Insects of Australia' again), will have us discussing cladistics and palaeontology for the next month - its a pity we lack the palaeontologists to help out.

Chris Reid has been very quiet of late, monastically (at least that's what he tells us) writing up his thesis for imminent submission. Se Kim is similarly preoccupied writing, so there will be no more need for expansion of the forest industry at Eden to produce paper for his phylogenetic output. We have another Danish cladist with us: Michael Hanson, from the Zoologisk Museum of the University of Copenhagen will be here for six months studying the higher classification of the hydrophilids - he is already bemused by what the Australian fauna has done to his previous concepts.

October's IUBS meetings in Canberra will bring a number of visitors to workshops on nomenclature and biological monitoring (organised by Richard Norris), including Chris Thompson, USDA Dipterist, WANG user and

syrphid systematist.

Joanne Daly and
Peter Cranston
Regional Councillors



George Ettershank has retired from Monash University and is now building a house at Murdunna. Michael Fletcher has moved from Canberra to Legana to work with the Tasmanian Farmers and Graziers Association and is becoming familiar with the Tasmanian butterfly fauna. Ted Martin is continuing work on a revision of the Chlenias moths.

CSIRO Battery Point

By November Keith Taylor and George Bornemissza will be the only entomologists at CSIRO (both Honorary Research Fellows) because Robin Bedding will be moving his nematode unit to Canberra. Keith continues publishing on free living psyllids of eucalypts and other Myrtaceae and recently received specimens of a long unseen Froggatt genus from Alan Yen's mallee surveys.

Agriculture Department

Margaret Williams is kept busy by mite resistance to cyhexatin and growing resistance to clofentezine and hexythiazox. Margaret will be working with CSIRO and Australian Hop Marketers on an ASRF funded project for integrated control of mites in hops. Nursery people heard Margaret speak on mite resistance to pesticides in nurseries and home gardens at a plant health seminar for nursery people. John Ireson reports that the mite predator Neomolgus capillatus (Kramer), introduced from France for control of lucerne flea, has established at one locality in NW Tasmania. Sandra Leighton and Andrew Rath will be attending the Fifth Australasian Conference on Grassland Invertebrate Ecology in Melbourne in August. Andrew will speak on Red-headed pasture cockchafer control by fungus and recently spoke to Tasmanian farmers on entomophagous fungi. Peter McQuillan has been acting Senior Entomologist while Aleks Terauds deals with the recall of chlorinated hydrocarbon insecticides. Lionel Hill attended the CSIRO/DSIR workshop on 'Application of pheromones to pest control' in Canberra in July and took the opportunity to check type specimens and photographs of Tasmanian Noctuidae in ANIC.

Hobart Technical College

Laurie Miller has been promoted to Senior Teacher in the School of Applied Science. He recently spoke on plant health at a seminar attended by around 60 nursery people. Black Vine Weevil is becoming a serious problem in Tasmanian horticulture and Laurie reports that Bioenterprises P/L have established a factory in Hobart producing nematodes for BVW control. Much of the production is exported as there is a big market overseas.

Queen Victoria Museum

Bob Green continues his foliage and pitfall invertebrate collections from Mt Maggs forestry area. This locality adjoins the controversial Lemonthyme forests and the collection which began 14 years ago is the only major one from these forests. Another well documented collection now with Bob are those things that aren't spiders collected by Tracey Churchill in coastal heaths. Bob Mesibov donated Onychophora collected recently under Plomley Foundation funds and is now studying 2 new rare Onychophora (one very large, the other unpigmented) from restricted east coast localities with financial support from the Australian and Tasmanian Wildlife Services.

Tasmanian Museum

Alison Green has been coauthoring the terrestrial Oniscoidea (isopod) text for the Zoological Catalogue of Australia, an ABRS project. Dr Geoffrey Dyne from the Bureau of Flora and Fauna visited Alison to discuss Oligochaeta. Funding for the World Heritage Area is flowing on into a number of invertebrate studies. Alison recently identified Oniscoidea from western Tasmania caves for Stephan Eberhardt's World Heritage study of cave fauna. Mike Gray and Janet Waterhouse from Australian Museum visited while collecting spiders and freshwater molluscs respectively in the WHA. Dr Janet Moore of Cambridge University visited while studying nemertines in the WHA and her husband, Dr Norman Moore, who is involved in the British Nature Conservancy Council took the opportunity to examine Odonata in the Museum. Leigh Winsor of James Cook University was not on World Heritage funds but visited Alison while collecting Tasmanian Turbellaria and terrestrial nemertines.

University of Tasmania

John Madden is overseas till 8 August and will be attending the International Congress in

Vancouver.

APPM Forest Products

Dave DeLittle reports that Haifeng Li (an MAgrSc student under John Madden) has submitted an interim report on leaf chemicals to APPM showing larger differences between juveniles and adult leaf chemistry in Eucalyptus nitens than in other symphyomytrus species. Adult leaves of E. nitens also have more similarities with Monocalyptus species than other symphyomytrus species have and this may explain why the monocalypt feeder Chrysophtharta bimaculata attacks E. nitens but not E. globulus and E. viminalis.

Lionel Hill
Regional Councillor

SOUTH AUSTRALIA

South Australian Museum

Honorary Entomologist since 1966, Joe Szent-Ivany, died on June 10 at the age of 78. Joe had a long and varied life in Europe, Australia and New Guinea. A full obituary and portrait will appear in the next issue of the Bulletin.

Ted Edwards visited from Canberra to continue photographing lepidopteran types for the catalogue project and Mary Carver made a visit to discuss the Hemiptera chapter of the new "Insects of Australia" with Gordon Gross.

David Hirst visited the Australian and Queensland Museums to examine their collections of huntsman spiders. He also collected in the intervening forests, getting rather frustrated with the large huntsmen refusing to come down from their secure perches in high trees.

Waite Institute, Department of Entomology

Several members of the Department have recently been seen on the entomological conference circuit - Geoff Allen, Andy Austin, Jon Hardy, Dennis Haugen, Roger Laughlin, Derek Maelzer and Phil Weinstein attended the Society meetings in Brisbane and Mike Keller, Peter Miles, Dudley Pinnock and Phil Weinstein attended the meetings in Vancouver.

Dr Tom Baker from UC Riverside visited the Department recently and gave a seminar on insect pheromones and had several useful discussions on this and other subjects with staff and students.

Duncan Mackay and
Alice Wells
Regional Councillors
(with a little help from David Lee)

NEW SOUTH WALES

Biol. and Chem. Res. Inst., Rydalmere

Many members of the Entomology Division attended the 1988 AGM. While in Brisbane, Gary Levot and Paul Hughes visited the QDPI to study sheep body lice.

Dr P. Cook, a CSIRO Postdoctoral Fellow, visited BCRI to study electrophoretic techniques for use in identifying enzymes causing insecticide resistance in sheep blowflies.

In June, Barry Wallbank attended the Grain Protection Working Party Meeting in Melbourne.

Visitors to Rydalmere included David McAlpine (Australian Museum) studying acalyptrate flies.

Macleay Museum, University of Sydney

The Macleay Museum has been a busy place with 21 visitors and 4 regular volunteers to the Entomology unit. With recent renovations involving the removal of a wall, a bit more space is now available.

While in Brisbane for the 1988 AGM, Woody Horning was able to visit the Sedlacek collection.

Woody also has an ongoing project in association with Taronga Zoo to study parasites on their birds. He has been receiving all the Zoo's dead birds and dissolving the feathers in 15% KOH. THe lice and feather mites are readily retrieved and ready for study since they have already been cleared. Woody has found that the parasite load of some zoo birds is much greater than previously suspected.

Forestry Commission of NSW

A recent outbreak of the exotic wood wasp, Sirex noctilio, on exotic Pinus radiata

plantations in exotic southern New South Wales has caused much concern. Four of the Commission entomologists, Chris Stone, Ted Taylor, Bob Eldridge, and Gary Webb are participating in a survey of the area and embarking on a programme of biological control for the pest.

Australian Museum, Sydney

Barry Day has taken over as collection manager for the entomology and arachnology collections. The position is now rotated under a new management plan for the Invertebrate Division. Geoff Holloway is overseas during which time he plans to visit museums in Europe and North America.

David McAlpine is continuing with his study of Coelopidae or kelp flies. The containers of rotting kelp from which he is rearing these flies have reached a rather "high" state, generating large quantities of CH_4 and H_2S! Roger de Keyzer has returned to the Entomology Department after a period working in the Mollusc Department. He is happy to be back breathing naphthalene, but not for long, since Asia calls again and he is off to Sumatra in August.

After completing a manuscript on Dolichopodidae for the "Insects of Micronesia" series which the Bishop Museum is trying to revive, Dan Bickel is back on the Australian Sympycninae. George Hangay, head of the Museum's exhibition department and enthusiastic collector, has recently returned from W. Malaysia with enormous light trap collections. The Museum will mount a temporary exhibit of some of the more spectacular nocturnal Lepidoptera he collected. Max Moulds made his regular monthly visit with the final typescript copy of his Australian cicada book. We all await its publication.

AES member Don Colgan arrived at the Museum in July and will head a new Evolutionary Biology Unit which will utilize chemical and molecular techniques in taxonomic studies. Don was previously at ANU and one of his interests is the higher relationships of the insect orders.

The sorting of more than 50 malaise trap samples from NSW North Coast rainforest sites is nearing completion, with the material now in readily accessible taxonomic groups.

Overseas visitors: Wojciech Pulawski from the California Academy of Sciences spent a day here examining Sphecidae en route from New Guinea. Mike Parsons from the Los Angeles County Museum stopped in en route to New Guinea. He studied the Museum collections to gather information for a book on New Guinea butterflies.

Army Malaria Unit, Ingleburn

Steve Frances, Tony Sweeney, and Steve Doggett attended the Brisbane AGM and presented papers.

Steve Frances, Tony Sweeney, Bob Cooper, and Richard Piper spent 5 weeks in May-June this year collecting Anopheles mosquitoes at Ngukur on the Roper River, Arnhem Land. They were joined there in their collecting efforts by Peter Whelan and Graham Dobson of the Northern Territory Department of Health.

Overseas visitors included Dr Jeffery Hii, WHO, Malaysia, en route back from the Solomons, and Dr Mark Goettel, from the Boyce-Thompson Institute, Ithaca, New York, who is working on mosquito pathogens.

University of New South Wales

For those who have not visited CERIT, it is located in a building on the edge of Centennial Park, which once housed Sydney trams. The historically facinating building has been listed by the National Trust and the Heritage Council and is one of the few old buildings owned by the University of NSW. As with most antique buildings, it suffers from 'the outside coming inside' on a regular basis, making Chris Orton's efforts to improve internal appearances a frustrating affair! The resident possums don't help either. However, there is light at the end of the tunnel - we are hopeful of some improvements now that the historical nature of the building has been officially recognized.

One new grant has recently been awarded to CERIT by Unisearch Ltd., for the development of protocols for the testing of domestic insecticides for crawling insects and fabric pests. Plans are underway to build a second aerosol testing chamber beside the present overworked one. As well, three continuing grants have been awarded to CERIT staff; two Australian Wool Corporation grants and one Commonwealth Development Bank Grant. These are for studies into the genetics of resistance of Lucilia to ovisupression (OS) insecticides and for the study of sheep blowflies and sheep susceptibility in the arid zone.

Chris Orton and Jenny Anderson gave talks at UNSW Fowlers Gap Arid Zone Research Station Open Day in June and Jenny demonstrated her very smelly 'bait-bins' for catching sheep blowflies at the Wether-Trails and Commercial Day at the Gap a month earlier. Patrick O'Rourke has featured several times on ABC TV recently, in the Four Corners' programme on University funding and research. Some excellent scenes in the aerosol testing chamber were presented.

Robyn Gunning visited CERIT to discuss with Chris Virgona and Chris Orton the use of computers in data collection and Heliothis research.

University of NSW, School of Zoology

Christian Peeters is visiting laboratories in North America and Europe, after the XVIII International Congress of Entomology in Vancouver.

In the last issue, various visitors to Ross Crozier's laboratory for 1988-89 were listed. Dr Ng Sook Ming leaves at the end of July, and her flat will be taken over almost at once by Dr Penny Kukuk.

Meanwhile, Ross continues working on his book on sex allocation in collaboration with Pekka Pamilo (publication 1989?) and on the sequencing of honey bee mitochondrial DNA.

Macquarie Univeristy, School of Biol. Sci.

Dinah Hales attended the International Congress of Entomology in Vancouver and returned just in time to do something about the News Bulletin Editor's latest request for information. After two semesters in which teaching greatly outweighed research, Dinah found the congress an ideal preparation for getting the research neurons reactivated. One of the Congress highlights was the Post-Congress Field Trip, where, with the excellent guidance of the Cannings brothers, a select group of entomologists explored a range of habitats in south west British Columbia. Desert and hyperthemia one day, freezing mountain tops the next. The aphid diversity was magnificent too, but it was regretfully left behind in B.C.

Another Canadian traveller is Dick Frankham, who is away for about 8 weeks. His itinerary includes the Workshop on Molecular Genetics Applied to Animal Breeding and Production, and the International Congress of Genetics, as well as the Annual Drosophila Workshop and visits to various laboratories in Canada and the USA.

Andy Beattie's lab recently acquired a new postgraduate student, Myriam Lefebvre from Belgium. Myriam is working on ant genetics, but the project has yet to be defined.

Dave Raftos (Aust. Ent. Soc. Student Award winner, 1984) has completed his PhD (unfortunately for Australian entomology, it was on tunicate immunology) and has set off on his travels via London and Nottigham to take up a Fulbright at UCLA, where he will extend his work on tunicates ("and they employ someone to collect them ....").

Sydney University, Dept. of Public Health, Westmead Hospital

Richard Russell is currently overseas on a Churchill Fellowship study tour and is expected to return in early November. Richard spoke at the Vancouver Congress on mosquito borne arboviruses in southeastern Australia. In Richard's absence, Merilyn Geary (Technical Officer) is busy maintaining colonies of mosquitoes to do further studies with arboviruses, plus cataloguing the extensive alcohol collection on to data base. Danielle Heilpern (Research Assistant) has finished sorting and identifying the thousands of mosquitoes collected in the monitoring program and is now in the final stages of completing the report to present to the Arbovirus Committee in August.

Peter Wells (Research Assistant) who was involved with virus isolation at Prince Henry has left and is now working at Sydney University.

Margaret Debenham and Megan Hicks at Sydney University, Department of Public Health, are continuing to produce the remaining volumes of the 'Mossie Monograph'. Volume 9 is at present at the printers and Volume 10 will shortly follow.

Sydney University, Department of Plant Path. and Agric. Ent.

Gordon Reidy has just been awarded his PhD for a thesis on the effects of malathion and paraquat on mixed function oxidases of rats and insects, and Mohammad Tamim Olime has received his DipAgrEnt for studies on the cytotaxonomy of burrowing cockroaches. Congratulations!

Everyone except Fred McDonald has been down with the flu, but struggled on to set up Open Day displays on giant cockroaches and on green vegetable bug and its parasite.

Dinah Hales and
Dan Bickel
Regional Councillors

NSW COUNTRY NEWS

NSW Agriculture and Fisheries, Yanco Agric. Inst.

With a change of state government comes a change of name. No longer are we a "Department" nor do we like full stops punctuating NSW! Departmental (oops!) restructuring has not as yet directly affected entomology in the regions and we are keeping our fingers crossed that this does not change.

Ed Jones' old position of Senior entomologist is still vacant and will remain so until the current freeze on NSW Public Service jobs ends (whenever that is). Consequently, the entomological burden of south-western New South Wales is being borne by David James, with the capable and energetic support of Richard Faulder, Glen Warren and Merv Graham. David was recently successful in obtaining funding from the Oilseeds Research Council for a 3 year project on "Earth mite management in establishing rapeseed", which will involve studies on the biology, ecology and control of red legged earth mite, Halotydeus destructor, and blue oat mite, Penthaleus major. A major portion of the funding will support the appointment of a Technical Officer to assist in earth mite research. Karen Omalley, formerly an Agricultural Inspector at Griffith, has been appointed to this position.

David's research on spined citrus bug continues apace with additional funding granted by the NSW citrus growers council lemon sub-committee. This is for a project aimed at investigating the value and effectiveness of inundative releases of wasp parasitoids for the control of spined citrus bug in the MIA. Large and expanding cultures of spined citrus bugs and parasitoids currently occupy much of the rearing space at Yanco in readiness for the planned spring releases. The funding allows the appointment of a full time assistant to help with culture maintenance and the spring field work. A hazard of spined citrus bug rearing is the occasional jet of defensive secretion which invariably homes in on the eye causing intense irritation and swelling. So far only blue eyes have been attacked ...

NSW Agriculture and Fisheries, Tamworth

Apart from dropping the use of "Department" in NSW agriculture's official title, the use of "&" instead of "and" is preferred. We must get it right!

Fun-runner extraordinaire Robyn Gunning was recently awarded a prestigious Churchill Fellowship to study techniques of biochemical toxicology at Rothamsted in the UK. Robyn will spend 3 months at Rothamsted next winter, an experience which will undoubtedly be of great value to her current research on insecticide resistance in Heliothis. Congratulations Robyn! I know the English countryside is terrific for jogging!

NSW Agriculture & Fisheries, Agric. Res. and Vet. Centre, Orange

Graham Thwaite attended the 18th International Congress of Entomology in Vancouver and presented a paper on strategies for controlling Tetranychus urticae and Panonychus ulmi in Australian apple orchards. He also visited research centres at Summerland, British Columbia, and in Washington State, and inspected chemical trials on apple dimpling bug run by Sandoz. Graham then enjoyed a recreational, taking in the sights and pleasures of various west coast centres.

Col Bower, meanwhile, participated in an agricultural training session for TAFE teachers held at Hawkesbury Agricultural college, Richmond. Col's contribution was on two spotted mite management in horticultural crops. He also attended a one day meeting at Shepparton, Victoria on mite control strategies for 1988/89 in the Goulburn Valley. The meeting was called in response to confirmation of clofentezine (Apollo®) resistance in two spotted mites from orchards in this area. Vic Edge from BCRI at Rydalmere and David James from Yanco also attended.

NSW Agriculture & Fisheries, Agricultural Research Station, Wollongbar

Neil Treverrow recently returned from the cold south (Tasmania) where he spent some time with Robin Bedding of CSIRO at Hobart, discussing control of banana weevil borer using nematodes. The entomopathogenic

programme at Wollongbar is showing promise and Neil and Robin are collaborating on a similar project funded by ACIAR to control Banana Weevil borer in Tonga.

David James
Regional Councillor

Museum of Victoria

Ken Walker and Arturs Neboiss spent two glorious weeks collecting invertebrates within the World Heritage Area (WHA) of south-west Tasmania during a joint expedition in Feburary. Ken and Arturs have just completed sorting and analysing the results and report that the region is extremely rich in Trichoptera (79% of the total Tasmanian fauna occurs in the WHA). The survey yielded some very interesting new trichopteran distribution records and at least 5 new species await formal description. Since 1964 distributional data on Trichoptera have been progressively accumulated and are now being utilised to give a broad detailed analysis of habitat requirements for particular species. The results from the recent survey will provide invaluable base-line data which will allow possible future monitoring of environmental changes of aquatic ecosystems within the WHA of Tasmania.

Alan Yen has just returned from five busy weeks in southern China studying invertebrates on plantations of Australian eucalypts and acacias, and on some broad-leaf monsoonal rainforest trees. Based at the Guangdong Entomological Institute in Guangzhou, Alan found little of entomological significance amongst the eucalypts and acacias, but noted major environmental problems associated with these plantations. The litter layer in these large monoculture plantations is removed and collected for fuel for cooking leaving the bare ground which is being seriously eroded.

Plant Research Institute, Burnley

Paul Horne, Peter Stahle and Peter Ridland conducted a field trial in collaboration with Robin Coles and Ron Rowden from South Australia on biological control of blackheaded pasture cockchafer, Aphodius tasmaniae, with the fungus Metarhyzium anisopliae. Further monitoring and sampling trips are planned for this winter.

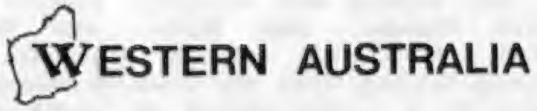
Merv Bengston, Pat Collins and Barry Wallbank visited Peter Williams and Michael Braby at PRI for discussions on stored grain research and insect pests following a meeting of the Australian Wheat Board Grain Protectant Working Party in June.

Keith Turnbull Research Institute, Frankston

Kate Blood has been employed as Technical Officer working on biological control of thistles and will be helping rear Rhinocyllus conicus, a promising weevil which attacks the thistle seed heads. Welcome aboard, Kate!

Dave McLaren reports that several thousand eggs of the ragwort crown boring moth, Cochylis atricapitana, have been exported to Delemont, Switzerland, to enable entomologists to complete host specifity studies this summer. Researchers in Europe had apparently been unable to locate any field populations of this possible natural biological control agent this season!

Michael Braby and
Don Ewart
Regional Councillors



Agriculture Protection Board

The long-running Argentine Ant Programme has been temporarily halted pending a review by the Environmental Protection Authority (EPA). Public submissions closed on June 2, 1988 but it is not expected that EPA recommendations to Government will be made before September. In the meantime, staff are concentrating on research into alternative control strategies for Argentine ants, with particular emphasis on baiting methods.

Department of Agriculture

The start to winter in the south-west has been marked by average or above rainfall for the three months. Phil Michael has been so busy collecting and redistributing predatory mites of the genera Anystis and Neomolgus that he has been posted 'Missing in Action'.

Queensland was a favourite destination for Department of Agriculture entomologists with Chief Entomologist, Nic Monzu and

Entomologists, John Sandow, Anne Hill, Peter McFadden and Tony Postle visiting Brisbane to attend the 19th Annual General Meeting and Scientific Conference of the Australian Entomological Society. While these trips were strictly business, EXPO was enjoyed by all.

After the Conference, Peter McFadden, our northern entomologist, was able to take the opportunity to travel north through Queensland to discuss tropical entomology with DPI entomologists at Toowoomba, Nambour, Emerald, Ayr and Mareeba. Discussions were also held with staff of Biocontrol at Warwick and at the Biology School of James Cook University in Townsville. A brief stopover in Darwin to re-acquaint with the near neighbour Northern Territory DID entomologists completed the tour before Peter returned to the reality of Kununurra.

Another event of significance for the north is the approval by the Public Health Department of Mirex - registration for control of Mastotermes in Western Australia. It is expected that Mirex will be made available to licensed pest control operators, nursery people and selected growers who have undergone a training course in the use and safety aspects of Mirex application.

Tony Postle left the Department to complete his doctoral thesis on the role of soil litter invertebrates in Jarrah forest.

David Yeates, from the Department of Entomology, University of Queensland, arrived in late June to take up the position of Quarantine Entomologist. He submitted his PhD thesis in May titled "Systematics and Behaviour of Australian Lomatiinae (Diptera : Bombyliidae)". David is settling in by viewing quarantine facilities, inspecting ships' holds and improving his squash.

Department of Conservation and Land Management

Ian Abbot and Janet Farr travelled to the great southern region to set up trial plots where flat topped yates are being attacked by a lerp insect tentatively identified as Cardiospina brunnea.

Janet was joined in Manjimup by William (Bill) Frost from the Waite Institute in South Australia. Bill has a Bachelor degree in Agricultural Science with an Honours in Entomology. He is a former winner of the Browning medal. His surname is well suited to the area.

CSIRO

Zan Mazanec retired from the Division of Entomology in July after 27 years service with CSIRO - 21 of these years in Perth. Zan has been given an Honorary Fellowship so that he may write up his remaining research on jarrah insects. We wish him well in his retirement which will probably involve much fishing, painting (of the art variety) and playing of the mandolin.

David Evans and Roger Farrow from CSIRO in Canberra visited the Perth staff where they had discussions on current projects and future directions. They also had disucssions with Nic Monzu and Kevin Walden, from the Department of Agriculture, on Heliothis research and viewed the Eucalyptus globulus plan at CALM.

James Ridsdill-Smith visited Brisbane for the AES Conference.

Curtin University of Technology

Jon Majer spent a productive three weeks in the Kimberley region during June as part of the National Rainforest Survey.

Health Department of Western Australia

Tony Wright, in liaison with Mike Lindsay of the UWA Microbiology Department, took field trips to Jerramungup/Hopetown in May and Dongara/Murchison in June, following flooding in certain parts of these areas. The trips were part of research into the possible transmission of arboviruses via transovarial means.

Murdoch University

Jenny Davis has had a busy quarter. In May she attended a Conference of the Australian Society of Limnology in Townsville. Afterwards she was able to spend some time looking at waterpennies (Coleoptera : Psephenidae). Unfortunately the timetable of the ASL Conference clashed with the AES Conference which she was unable to attend.

Jenny also made it up to the Kimberleys as part of a Wetland Survey undertaken by CALM which was represented by Dr Stuart Halse and Grant Pearson. Wetland insects, particularly dragonflies, were collected and data gained should allow comparison between Kimberley and Kakadu wetlands to be made.

In July, a workshop was held for local Health Surveyors on the biology and identification of midges (Diptera : Chironomidae). Midges, in recent years, have become a severe nuisance in some residential areas adjacent to lakes. Health Surveyors were given a kit containing 11 species of larvae and 5 species of adult to help identify pest species and therefore improve management programmes.

Two post graduate students have enrolled in recent months for doctoral theses. They are Shirley Balla, who has a MSc from Queensland University and will be studying life history strategies of aquatic insects, and Ivor Grouns, who has a BSc from University of Western Australia and an Honours from University of Tasmania, who will be investigating the invertebrates found in Karri forest streams.

Western Australian Museum

At the time of writing, Terry Houston was also in the Kimberleys for the second phase of the Kimberley Research Project.

University of Western Australia (Zoology Department)

In June, Barbara Main collected non-insect invertebrates in the Kimberleys as part of CALM's Rainforest Survey.

Win Bailey and post graduate students Ian Dadour and David Cook presented papers at the 18th International Congress of Entomology held in Vancouver between July 3 and 9.

General

Dr James Ridsdill-Smith, John Sandow and Anne Hill returned from the 19th AES Annual General Meeting as Vice President, Secretary and Treasurer, respectively, of the Society. This is the first time the executive has been located in Western Australia. They appear to be settling in well to their duties despite the delay in delivery of the filing cabinet which contains the documentation of the AES. Hence discussion of some matters has been in a bit of a vacuum where prior history has been unknown.

Peter Davis
Regional Councillor

NORTHERN TERRITORY

Museum of the Northern Territory

In April, Mali Malipatil spent 3 days on a general collection trip to the Cutta Cutta and Katherine Gorge areas where, due to good recent rainfall, large numbers of insects were taken. Several weeks later, Mali was again on the move, firstly to Canberra to obtain identifications of NT beetles, flies and wasps and then to Brisbane for more insect I/D and the Annual Conference.

CSIRO Tropical Ecosystems Research Centre

Alan Anderson and Jonathon Majer (Curtin University) were priveleged participants in an expedition to remote vine thickets in the northern coastal region of the Kimberleys during June. The 80 thickets are spread over several hundred kilometres of spectacular country and most are accessible only by helicopter. During the survey, Alan and Jonathon examined the ant fauna of 8 representative sites and collected a total of 91 species from 37 genera. Species richness varied from 18 to 37 but since nearly half of the species were recorded from only one site, this suggested that the sampling represented only a fraction of the total ant fauna occurring in the region's vine thickets.

Although the thickets support a rich ant fauna, it is nowhere near as rich as in the surrounding woodlands, which, at commonly more than 100 species per site, are exceptional by world standards. The ant community structure within the thickets was also totally different from the "sun-loving" taxa which normally dominate open habitats throughout Australia being entirely absent from most sites. Cryptic and arboreal species dominated in the thickets with many species belonging to groups characteristic of eastern rain forests. Based partly on this work, Alan will be presenting a paper concerned with ants as indicators of habitat quality in Australian terrestrial ecosystems at the Bicentennial meeting of the Ecological Society at Geraldton in August.

Office of the Supervising Scientist, Alligator Rivers Region

Interesting results have emerged from recent studies on the ecology of the benthos in

the East Alligator river systems by consultant taxonomists from other institutions. Peter Cranston (CSIRO, Canberra) has recorded several genera of Chironomidae previously unknown in Australia and David Suter (State Water Laboratories, Adelaide) has discovered a probable new genus of Ephemeroptera.

Department of Primary Industry and Fisheries (DPIF)

For the second time in 15 months, the Department has undergone an upheaval involving a change of name, Minister and Departmental Head. The full ramifications are yet to be felt.

DPIF, Entomology Section

During May, specimens of flies routinely collected by Quarantine Officers from boats shipping live cattle to SE-Asia were identified as the Old World Screw Worm Fly Chrysomya bezziana. Contingency plans were hastily put into operation to monitor the establishment, spread and control of this pest which has been described as the most important entomological threat to Australia's livestock and wildlife. Despite an extensive trapping grid and the placement of senital animals over the past 10 weeks, no further C. bezziana have been detected. The upgraded monitoring programms will remain in place for a 12 month period. Meanwhile the stench of swormlure pervades the laboratory and insectary areas each day.

As if that threat was not enough, the discovery of European Foul Brood disease in recently imported bee hives has caused extra work for Steve Collins and Mike Neal. The NT has previously been free of any of the important bee diseases found in the Eastern and Southern States. The infected hive was in a consignment of 200 trucked from NSW complete with disease free inspection certificates which had been forced by the Easter floods in the Eastern States to travel via SA. In the latter State, the bees were released for several weeks and thereby became infected. All hives in that consignment have now been treated with antibiotics and a survey of all hives in the NT has been commenced.

Ian Cook has not quite relinquished his position as Acting NT Registrar of Pesticides and attended a meeting of PIGS (Pest Industry and Government Seminar) held in Canberra during July.

DPIF, Agricultural Quarantine Section

Along with staff from the Entomology Section, Ted Fenner has spent a lot of time in recent months looking at blowflies collected in the swormlure traps around Darwin. The total weekly catch of 2,000 or more blowflies must be identified promptly. While the tanglefoot used in the traps catches most types of insects, it is actually harvested by native bees (Trigona sp.). Where these are abundant, they can entirely remove the tanglefoot coating of a trap within a few days.

DPIF, Weeds Section

A wake was held in the Section to mark the official closure of the Chlamisus sp. (Mimosa leaf beetle) colony after 4 years in culture. This chrysomelid was first released in 1984 and has established but is exerting little control in the field.

NT Health, Medical Entomology Branch

The Branch has recently been involved with local and interstate media reports (and misreporting!) concerned with Ross River Virus and the potential threat to tourists in the NT. In reality, the confirmed cases of epidemic polyarthritis disease (caused by Ross River Virus) in the NT have been few and insignificant when compared to the larger State to the East of us. The Branch has been busily promoting common-sense self protection measures against mosquito attack and advising callers that there was no reason to cancel their holidays in Kakadu.

Three recent confirmed cases of Murray Valley Encephalitis in the NT prompted Wendy Kelton to collect live mosquitoes for virus isolation. High levels of Culex annulirostris were found in the vicinity of one of the case reports. Wendy also visited Pat Marks at QIMR for a week to obtain assistance with the taxonomy of several of the problem NT mosquitoes.

Dave Booth has had great success in constructing a DNA probe to distinguish between the currently known species of Anopheles farauti s.l. in the NT. After further evaluation, the method will be an invaluable tool in determining the distribution of the various sibling species of this important malaria vector.

Graeme Dobson and Dave Booth conducted an, Aedes aegypti and vector survey of Nhulunbuy and reported the continued absence of this unwanted immigrant.

Peter Whelan and Graeme Dobson joined the Army Malaria Resaerch Unit for "Exercise Anopheles IV" in the Gulf area during early June. They met with Steve Frances and Richard Piper and the rest of the team at Ngukurr to assist with local knowledge and customs. The latter included the unintentional demonstration of how to bog a 4WD in the middle of the road several months after the end of the Wet season!

Peter Whelan has also been keeping his hand in with the mosquito engineering control program, trying to complete some of the drainage projects around Darwin and to convince local authorities on the merits of the program.

Stuart Smith
Regional Councillor

QUEENSLAND

Department of Entomology, University of Queensland

Elizabeth Exley, Tim Heard, and Helen Wallace attended the Second Australian and International Bee Congress at the Gold Coast, 21-26 July. The congress theme was "Beekeeping in the Year 2000" and the session entitled "Bee Pollination in Practice" was of special interest to Tim and Helen who are both studying aspects of this topic.

Myron Zalucki, Gimme Walker and Richard Lloyd (DPI, Toowoomba) travelled to the Gulf Country and western Queensland to service traps and collect Heliothis during June as part of on-going studies in Heliothis ecology.

Dr Donald Quicke, University of Sheffield, England, is visiting the Department during July to September on a University of Queensland Travelling Fellowship to further his studies on the world genera of braconine wasps. So far he has sorted the braconids of the QDPI and Queensland Museum collections as well as the UQIC and collectively these have yielded representatives of five new genera. During his stay he plans to do some field work in northern Queensland and to visit the Australian Museum and ANIC.

After spending the last two years in the Department, Gary Dodson and his wife, Jill have returned to the USA. Gary will continue writing up his behavioural studies on Phytalmia (Tephritidae) while seeking further employment and will be located for the time being at the University of Florida.

The Department's delegates to the International Congress in Vancouver were Hugh Paterson, Martin Rice, Gary Dodson and Bill Ballard who all presented papers and very much enjoyed the meeting.

Joan Bryan visited the Solomon Islands for three weeks in May to supervise Masters of Tropical Health students studying the health of workers in a logging camp. She will be going to Malaysia at the end of July for four weeks to supervise other students in the Tropical Health Program. All the students from the Masters of Tropical Health will be examined at Kota Bahru, Malaysia where the graduation ceremony will also be held.

Anuchit Chinajariyawong has submitted his PhD thesis on mirid bugs in cotton and has returned to Thailand. Other students who have completed their PhD theses and moved on to fairer grounds are Dave Yeates (Bombyliidae) who has gone to WA Department of Agriculture, David Merritt (sensory physiology of Lucilia cuprina ovipositors) who is taking up a postdoc at the State University of New York at Albany and Peter Njagi (sensory physiology of taste receptors of Dacus tryoni) who has returned to Kenya to work for ICIPE.

Judy King, Elizabeth Exley and Visanthe Vithanage (CSIRO Horticulture) are presenting a paper entitled "Insect Pollination for Yield Increase in Lychee" at the Australasian Conference on Tree and Nut Crops in Lismore in mid August.

Derek Maelzer, Waite Agricultural Research Institute, SA, visited the Department during May and June to discuss with Myron Zalucki and Gimme Walker various issues in population ecology and future collaborative work on citrus red scale.

"Multi-media personality", Tom McRae, has finished his stint at EXPO 88 as "The New McGonnagal - the Poet Possessed" reciting the awful, late 19th century poetry of William McGonnagal of Dundee, e.g.

Oh thou demon drink
Thou fell destroyer
Thou curse of Society
And its great destroyer.

Tom claims he is personally possessed regularly by McGonnagal and produces more up-to-date poetry in similar vein. Thus, his EXPO repertoire included self-penned odes to funnel web spiders and cactoblastis, e.g.

In Queensland we're liable to shark attacks,
And bites from taipans and red-bellied blacks,
While everyone in Brisbane faces,
Redback spider bites in intimate places.
But we're better off than Sydneysiders
Who are menanced each day by funnel web spiders.
.....
The Sydney funnel-web is called Atrax,
And woe betide those it attacks.
.....
I long for the day you'll only see 'em,
In jar of metho in some museum.

As a complete change he recently appeared on TV's "Wombat" programme serving up meal worm burgers to a reluctant hostess who was pleasantly suprised at the taste!

DPI Toowoomba

An informal workshop on modelling Heliothis populations was held in early August at Toowoomba. The participants were Gary Fitt, Peter Gregg, Peter Twine, Graham Hamilton, David Murray, Ian Titmarsh, Greg Daglish and Myron Zalucki. On August 12th, the Inland Heliothis Research Group will meet in Toowoomba to discuss collections of Heliothis from far western Queensland and New South Wales.

Also, in Toowoomba, John Dugdale, lepidopterist with DSIR in Auckland, spent a week with Ian Common on his return trip from the Congress in Vancouver.

Lands Department, Alan Fletcher Research Station

Graham Donnelly has been very busy assisting in the preparation of a display on prickly pear and the role of Cactoblastis, for the Miles Historical Society Museum. The display is a Bicentennial Project, being prepared with the help of the AIAS, and will be opened on September 10, after which it will be a permanent feature of the Miles Museum. Members are urged to visit it if they are in the area.

Rachel McFadyen, with Allan Tomley and Marie Ablin, recently visited Miranda Downs cattle station in the Gulf country, to inspect the rubber vine problem and to release the moth Euclasta whalleyi from Madagascar. A sphingid, Nephele densoi, also from rubber vine in Madagascar, has just been received at Sherwood, and we are now wrestling with the problem of inducing a hawkmoth to mate and lay in quarantine! Jennifer Turnour will be in Brisbane on leave during August; she has come home for her marriage to Aime Marohasy of Madagascar and they will be returning to Tulear, Madagascar in September.

CSIRO Long Pocket Laboratories

Doug Waterhouse and Mic Julien visited Indonesia and Malaysia at the end of July for discussions with the authorities concerning the efficacy of biological control of Salvinia.

Peter Room spent some time during July visiting Salvinia control sites in New Guinea and Sri Lanka and reports that the programmes are working well.

Ken Harley will present two papers at an international workshop on water hyacinth in Nigera, 7-12 August. Water hyacinth is becoming a serious problem in Nigeria.

The Long Pocket Labs were represented at the International Congress in Vancouver by Gus Macqueen, David Kemp, Bernard Stone and Gunter Maywald. They hired a commercial booth to demonstrate the CLIMEX Programme during the course of the Congress.

Griffith University, School of Australian Environmental Studies

Yves Basset is continuing his analysis of insects caught in rainforest canopies. If you go to EXPO 88, make sure you see the display and video of the work Yves has been doing at the UNIVATIONS pavilion.

Queensland Agricultural College

Professor Laurence O'Roth and Dr Ronald T. Noyes of the Oklahoma University visited the Department of Plant Protection for discussions on the use of Agricultural aircraft. These personnel were in transit following the Aerial Agricultural Association Convention held

recently at the Gold Coast. They have been intimately involved in the development of a string flourimetric method of measuring swath width of agricultural aircraft in the United States and wished to discuss this development in relation to the techniques developed by the Plant Protection Department.

Miss Fenghui, an interpreter from Beijing University will spend one year at Queensland Agricultural College. She will be visiting various departments throughout the college in order to develop a working language for agricultural terminology.

Professor Cam Jay, from Canada, who has been visiting the Plant Protection Department will return to Canada following the International Bee Congress at the Gold Coast. Cam specializes in Honey Bee foraging behaviour and pollination. While here, Cam undertook several experiments with the college apiary, and conducted seminars and lectures on pollination.

Queensland Museum

The new Townsville Branch of the Queensland Museum celebrated its first birthday in late June with a week of events under the theme of "Butterflies for our Birthday". Geoff Monteith and Geoff Thompson transferred the temporary display on the entomological accomplishments of the Dodd family from Brisbane to Townsville for the occasion and stayed for a week to conduct a week of lectures and children's activities on insects. A gala event to open the display was a garden party launch of the new book "Australian Tropical Butterflies" featuring photographs by Cliff and Dawn Frith and text by Peter Valentine. Rhondda Jones, of James Cook University, made the launching speech and the three authors/photographers spent a busy afternoon autographing copies of their book (see photo).

Tracey Churchill has relocated to the Queensland Museum where she is continuing her research on an ecological survey of the spiders of the coastal heathlands of north-eastern Tasmania, in her capacity as Scientific Officer of the Queen Victoria Museum, Launceston. Tracey is also working with Robert Raven on his revision of the world genera of mygalomorph spiders, a project funded by ARC. Tracey, Robert and Julie Gallon head off for a fortnight in north Queensland in late August.

TOWNSVILLE BOOK LAUNCH. Busy signing copies of their new book, "Australian Tropical Butterflies", are author Peter Valentine (left) and photographer/publishers Cliff and Dawn Frith.

Dr Lyn Forster, of New Zealand will be studying Australian red-back spiders during her visit to the Museum from September 6 to October 6 after which she will spend time at the Zoology Department at James Cook University, Townsville.

Forestry Department

Dr Chris Sanders, Canadian Forestry Service, Sault Ste Marie, Ontario, visited Ross Wylie and Brenton Peters during July. Dr Sanders is particularly interested in the population dynamics of spruce budworm and the use of pheromones in monitoring and control.

DPI Entomology Branch, Indooroopilly

Neil Heather recently attended a week long meeting organized by the International Atomic Energy Agency at Orlando, Florida. Neil also visited USDA laboratories in Miami, Savannah and Yakama and returned through Canada.

Merv Bengston attended the XVIII International Congress of Entomology, Vancouver, Canada and returned via his ACIAR program research centres in the Philippines and Thailand.

Lin Xiao Lin, an Agronomist with the Canton Animal and Plant Quarantine Service, China, is spending 12 months in the department learning about all aspects of fruit fly research as well as discussing quarantine problems with John Turner.

Neil Gough has just returned from 3 months long service leave overseas, during this time he also visited workers in biological control in glasshouses in Holland and UK.

Peter Samson has resigned to take up a position as an entomologist with the Bureau of Sugar Experiment Stations. He will be stationed at Bundaberg.

Margaret Schneider and
Errol Hassan
Regional Councillors

SOCIETY LETTERCARDS FOR SALE

The Society has produced two, quality lettercards based on prize-winning drawings from the annual illustration competition. They are obtainable from the Business Manager: ten for $4.00 or two for $1.00.
Postage for ten is $0.95 within Qld and $1.05 for other states.
Postage for two is $0.37.

OVERSEAS NEWS

NEW ZEALAND

Ruud Kleinpaste, a Ministry of Agriculture Entomologist based at Auckland has recently identified the Australian sheep blowfly, Lucila cuprina from samples of strike received from a farm in Northland.

Allen Heath, a Ministry Parasitologist said there has been an increase in flystrike prevelance during the last 5 years or so but there is not evidence to suggest L. curpina is the only or main reason.

M.A.F. scientists have yet to determine the extent of the problem and farmers in Northland will be asked to send samples of live maggots to Wallaceville Animal Research Centre for identification.

John Tenquist
New Zealand
Correspondent

NEWS FROM AFFILIATED SOCIETIES

ENTOMOLOGICAL SOCIETY OF NEW SOUTH WALES

The major events of the recent somewhat cooler months have been the Society meetings. Doug Rugg (Agricultural Entomology and Plant Pathology, Sydney University) spoke at the May meeting on Australian Native Cockroaches, while Gary Webb (Forestry Commission, NSW) presented a talk on Boring Beetles and Moths. Both meetings were of great interest and in addition to the presentations, a variety of insects and related items of interest were presented for show and tell.

The new members of the Ent. Soc. NSW council seem to have settled in and the remainder of '88 should prove interesting for the Society membership. The taxonomy group will meet in August to dicuss "The use of Nonmorphological techniques for Taxonomic Studies". Forthcoming meetings include an account on a collecting trip to Mt Kaputar by Stephen and Bronwyn Underwood (Australasian Butterfly Company) in August, and in September, a talk on the chemotaxonomy/ecology of Ants by Dr Joe Brophy (Chemistry Department, Uni of NSW). A collecting trip may be in order during the later part of the year in view of the very mild winter we have experienced in NSW this year!

Don Scambler, who has been over recent years Vice-President of the Ent. Soc. NSW and an Honorary at the Australian Museum Entomology Department, moved to Lennox Head during May. Don has served on the council for some years and his absence from the council, meetings and society functions will be sorely missed. We expect Don to keep up the good work and although he will be close to Queensland we hope he enjoys his new location.

John Macdonald
Representative Councillor

ENTOMOLOGICAL SOCIETY OF QUEENSLAND

The June 14 meeting was the mid-year 'Notes and Exhibits' night. Christine Neale spoke on investigations she is carrying out on sound production by males of the Queensland Fruit fly, Dacus tryoni (Froggatt). Gary Dodson gave a short talk to introduce his display on fighting behaviour of Phytalmia fruit flies. Robert Raven spoke on the white tailed spider Lampona cylindrata, pointing out that all verified bites of this species have produced only minor temporary reactions. Margaret Schneider spoke on the nest and the various insects found within the cells, of the mud-dauber wasp, Sceliphron laetum (Smith), th nest having been built around a bench grinder. Ian Common gave a short talk entitled "Moths and sound".

At the meeting of August 8th, Gimme Walker gave a stimulating talk on control of sex ratios in Hymenoptera.

Meetings and speakers for the remainder of the year are as follows:

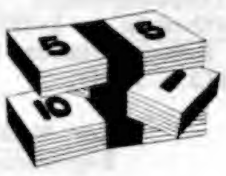
September 12:	Donald Quicke - braconid wasps.

AUSTRALIAN ENTOMOLOGICAL SOCIETY STUDENT AWARD 1989

- entry open to students who have not gained their PhD by June 30, 1989 (not necessarily members of the Society).
- entries in the form of a scientific paper on entomological research; text up to 5000 words with 3 copies, one and a half or double spaced.
- papers should be sent to the Secretary of the Society at the following address by the end of February, 1989.

Mr. J.D. Sandow
Secretary, AES
Entomology Branch
Dept. of Agriculture
Baron-Hay Court
South Perth WA 6151

- entries will be judged by a panel of senior entomologists appointed by the President of the Society.
- the winner will recieve $250 cash and will be invited to present his/her paper at the AES Annual General Meeting and Scientific Conference in Sydney from May 3-6, 1989. If this invitation is accepted, the Society will provide free conference registration and accomodation in Sydney and a return air fare from the winner's home state.
- more information available from the Society Secretary at the address above.



October 10: Joan Bryan - filariasis.
November 14:
December 12: Annual BBQ and notes and exhibites

Greg Daniels
Representative Councillor

ENTOMOLOGICAL SOC. OF VICTORIA

At the recent Annual General Meeting the following members were voted into office:

President:	Ken Walker
Vice-President:	R. Field, M. Hunting
Secretary:	T. New
Assistant Secretary:	P. Kelly
Treasurer:	G. Burns
Editor:	I. Faithful
Excursion Secretary:	P. Carwardine
Council Members:	M. Brady, D. Crosby, J. Field, P. Kelly

The out-going President, Ken Walker, gave an illustrated talk on Spiders and showed slides of his recent trip to the World Heritage Area in south west Tasmania.

A special meeting was called at the AGM to vote on three resolutions designed to make the society incorporated. All three resolutions were passed unanimously. Twenty five proxy votes were received and we thank all those who replied to the notice.

A motion to make Mary Le Souëf an Honorary Life Member was also passed unanimously.

For those interested in the nomenclature changes to the Australian Papilionidae proposed by Hancock (1983) in "Classification of the Papilionidae (Lepidoptera): a phylogenetic approach. Smithersia 2: 1-48" a list has been published by Robert Fisher in the Victorian Entomologist 18(3): 46-47.

Ken Walker
Representative Councillor

'ZOO' LE SOUEF MEMORIAL AWARD

The Entomological Society of Victoria is seeking nominations for this Award, instituted in 1983 in memory of the late J.C. ('Zoo') Le Souëf who contributed so much to amateur entomology in Victoria. The Award will consist of entomological equipment or books of the recipient's choice, to the approximate value of $150 (reflecting the amount of interest accumulated annually on the principal of the Memorial Fund).

Conditions of the Award:

1. The purpose of the Award is to recognise the very substantial role played by amateurs in development of knowledge of our insect fauna, this is to be interpreted in the broadest sense.

2. The Award is to be made for contributions to entomology by amateurs in Australia. Such contributions may comprise published papers and notes, broadcasts, newspaper articles, talks to Societies and/or amateur groups, or may be less tangible, such as a substantial record of help to others or public relations involving entomology.

3. No more than one award shall be made in each calendar year. Nominations may be made at any time, but it is expected that the Committee will meet on the 3rd Friday of November each year to review applications and recommend an award, if any, to the Coucil of the Society. Nominations received after 1st November each year may have to be deferred until the following year.

4. A nomination may be made by any individual or group of people and should be submitted to the Secretary of the Society, who will acknowledge its receipt and circulate it to members of the Committee.

5. A nomination will remain current for three successive calendar years or annual meetings of the Committee, unless an award is made to that nominee, and additional information may be provided to supplement the nomination at any time during this period. Such shall not be

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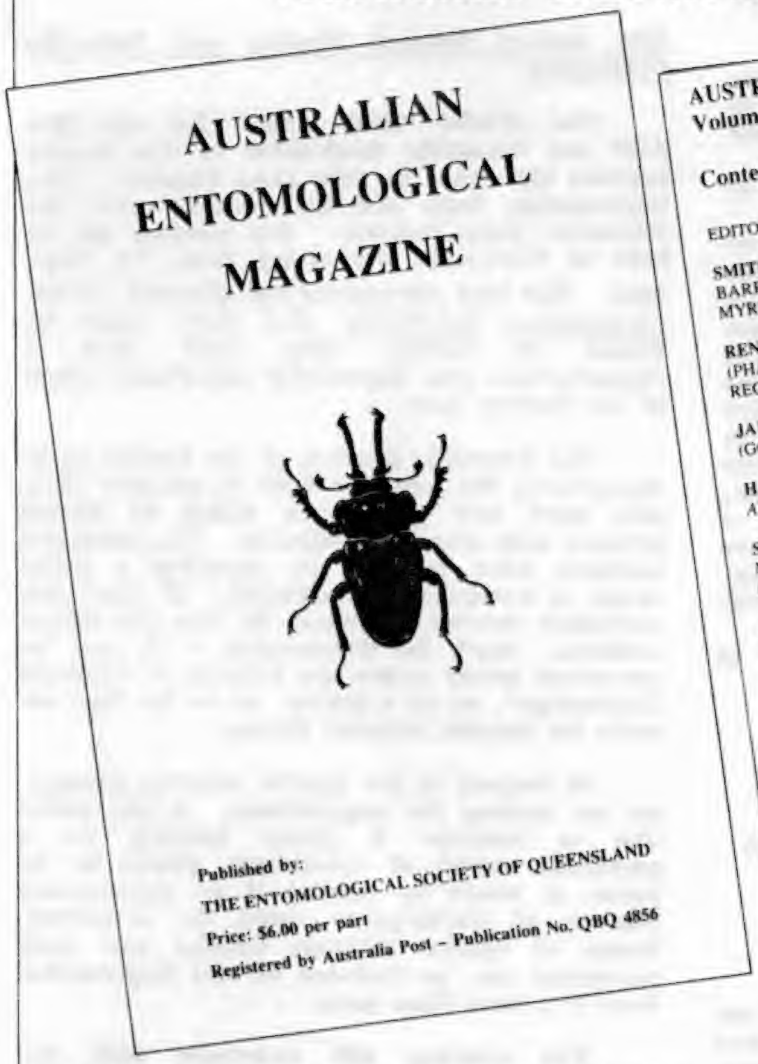

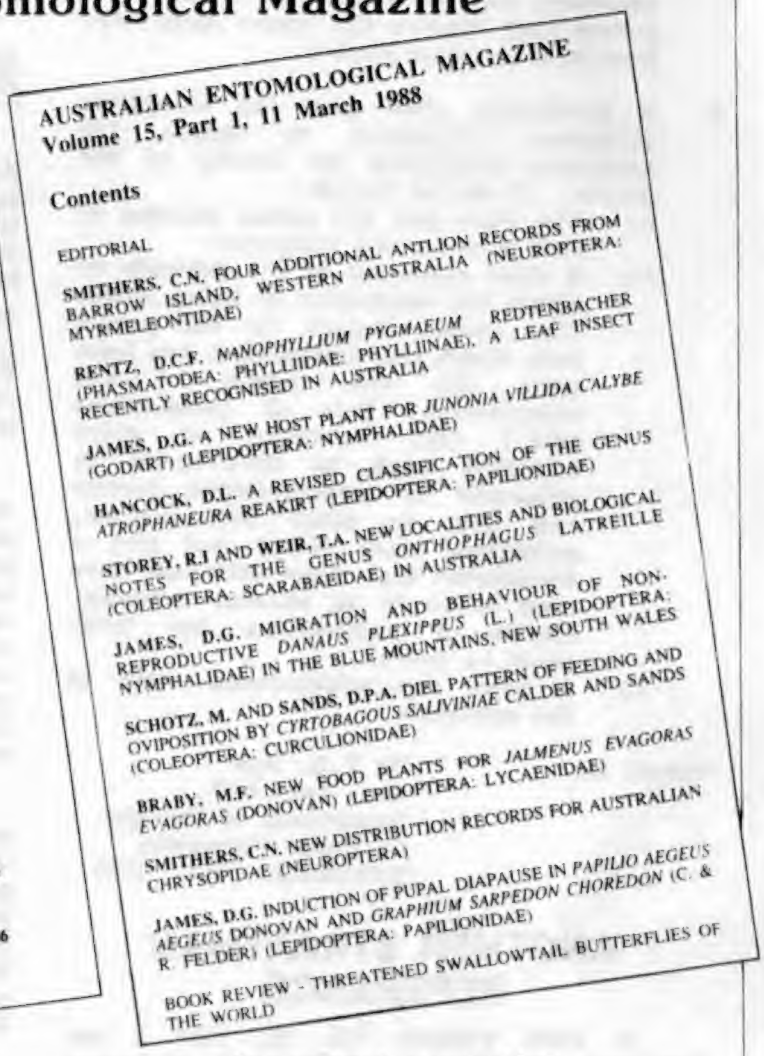

AUSTRALIAN ENTOMOLOGICAL MAGAZINE
Volume 15, Part 1, 11 March 1988

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BOOK REVIEW - THREATENED SWALLOWTAIL BUTTERFLIES OF THE WORLD

Australian Entomological Magazine is an illustrated journal devoted to entomology of the Australian region, including New Zealand, Papua New Guinea and islands of the southwestern Pacific. The Magazine is a non-profit journal, published in three or four parts annually by The Entomological Society of Queensland. Articles will be accepted from amateur and professional entomologists. The Magazine is produced independently and subscription to the Magazine is not included with membership of the Society. Subscriptions are payable in advance. Correspondence should be addressed to the Editor, Dr D.P.A. Sands or to the Business Manager, Dr E. Brough, Australian Entomological Magazine, P.O. Box 537, Indooroopilly, Queensland, Australia 4068.

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considered to constitute a new application. After three years, a candidate may be nominated afresh. No person may receive the award more than once in a ten year period.

6. A nomination shall give the Committee sufficient information to assess the nominee's worthiness for receitp of the Award. It should include:
   a) The name and full postal address of both nominee and nominator.
   b) A clear statement of the grounds on which the nomination is being made. This should include (i) the period over which the contribution has been made (ii) the details of the contribution, lists of publications (etc.) (iii) comments on allied activities such as involvement in naturalist or conservationist groups and help to other entomologists, collections made (etc.) and (iv) a declaration that these activities have been taken in an amateur capacity. Copies of publications (on loan) could be useful.
   c) A brief resume/cirriculum vitae of the candidate.

Submit to:

Dr T.R. New
Hon. Sec. ESV,
Department of Zoology
La Trobe University
BUNDOORA VIC 3083

ANOTHER STRAATMAN REFERENCE

In News Bulletin Vol. 23, Part 2 was published on obituary of Raymond Straatman which included a list of his publications. Since then 3 additional publications were listed in Vol. 23, Part 3 and one more in Vol. 23, Part 4. David Hancock has kindly drawn our attention to one more, as follows:

Straatman, R. (1979). A note on a mimetic approach by the adult phenotypes of two Ornithoptera species in Irian Jaya (West Irian), Indonesia, with notes on the larvae and new records of larval foodplants. Newsletter, Lepidoptera Group 1968 2: 129-131.

ADVANCE NOTICE NEXT CONFERENCE

20th Annual General Meeting and Scientific Conference

The official "first notice" for the 20th AGM and Scientific Conference of the Society appears elsewhere in this News Bulletin. The Registration Form will be enclosed with the November News Bulletin. The meeting will be held at Macquarie University from 3-6 May, 1989. Our logo represents the diamond beetle, Chrysolopus spectabilis (F.) first taken by Banks at Botany Bay, and thus a characteristic and historically significant insect of the Sydney area.

The Scientific Meeting of the Society is an opportunity for members both to present their own work and to discuss topics of mutual interest with other participants. The proposed sessions allow for this by covering a broad range of entomological interests: if your own speciality doesn't obviously fit into the named sessions, don't be discouraged - it can be presented either under the heading of "General Entomology", or as a poster, or in the time set aside for Special Interest Groups.

In respect of the Special Interest Groups, we are looking for suggestions: if you would like to convene a group meeting on a particular aspect of entomology, please let me know; it would be helpful if an approximate number of participants could be estimated. Names of Special Interest Groups and their convenors can be included on the Registration Form if I have them soon.

The meeting will culminate with the Annual Dinner, at an exciting venue, on Saturday 6th May. We have not planned any excursions, but will gladly assist any participants who would like to see more of the Sydney area after the meeting.

We look forward to seeing lots of you in Sydney next May - mark the dates in your diary!

Dinah Hales
Macquarie University
PH: 02 805 8181
FAX 02 887 4752

AUSTRALIAN ENTOMOLOGICAL SOCIETY

20TH AGM AND SCIENTIFIC CONFERENCE

TO BE HELD AT

MACQUARIE UNIVERSITY, SYDNEY
3rd — 6th MAY, 1989

CONFERENCE THEME: Insects '89: Prospects and Problems

MAJOR SYMPOSIUM: Chemical Control of Insects and Mites

ADDITIONAL SESSIONS:

Advances in Systematics	Biological and Integrated Control	
Forest Entomology	Medical and Veterinary Entomology	
Hormones and Physiology	Ants	General Entomology

In addition to the formal sessions, the Organising Committee hopes that members will continue the recent tradition of convening small special interest workshops within the Conference period.

Macquarie University is situated in the north western suburbs of Sydney, about 15 km from the city. To the north, the University buildings look out over rolling grasslands leading down to bushland reserves in the Lane Cove River valley. Accommodation has been arranged at Dunmore Lang College, a pleasant modern college about 5 minutes walk from the University buildings.

For further information, contact:
Dinah Hales, School of Biological Sciences, Macquarie University NSW 2109 (02) 805 8181
OR
John Macdonald, BCRI, PMB 10, Rydalmere NSW 2116 (02) 683 9766

ACIAR PUBLICATIONS FREE FOR DEVELOPING COUNTRIES

In a recent review of an ACIAR Monograph on Grain Protectants (J. Aust. ent. Soc., 1988, 27: 130) Neil Heather hoped that the $100.00 cost of the publication would "not deter its purchase by less developed countries where its value could be greatest".

ACIAR (Australian Centre for International Agricultural Research) is part of Australia's overseas aid effort. Its publications are selected to be of particular relevance to developing countries, and are distributed by ACIAR entirely free to relevant institutions and individuals in developing countries. Each is sent to a generous range of addresses in each country, selected according to the specific relevance of the publication, and the cost of this publication and distribution is a significant component of ACIAR's communications budget.

It would not, however, be appropriate to spend Australian Aids funds on publications for developed countries. Therefore, in accordance with the Commonwealth Government's policy of recovering costs, ACIAR publications are normally sold in answer to requests from these countries, with only occasional exceptions being made at ACIAR's discretion in the interests of improved collaboration with developing countries.

A recent entomological example of this policy has been with the book "Biological Control : Pacific Prospects" by Doug Waterhouse and Dick Norris. The compilation of this book was supported by ACIAR, and although it was published commercially by Inkata Press, ACIAR purchased 250 copies for free distribution. The bulk of these went to developing countries, as an invaluable database on target pests and weeds, their known natural enemies, and the prospects for their biological control. A few went to selected potential donor agencies and scientists, with the specific intention of promoting more and better biological control projects in the developing countries.

Paul Ferrar
Research Services Officer : Crop Sciences
ACIAR, Canberra

HYMENOPTERIST'S CORNER

A group met in Brisbane in May and discussed the possibility of organising a Hymenoptera 'news corner' to be published in the News Bulletin of the Australian Entomological Society. This effort is designed to promote communication amongst Hymenopterists within Australia. News items could include general comments, loan requests received and news about forthcoming expeditions, overseas excursions, visitors and disposal of malaise trap collections. It was felt that there was no need for a newsletter such as Sphecos at this time. It might be a good idea to establish a register of current Hymenopterists within Australia. Dr Woody Horning, Macleay Museum, University of Sydney, 2006, New South Wales [(02) 692-3538] has agreed to act as Secretary and would welcome responses from anyone who has an interest in Hymenoptera. Responses need to be received by mid-October for the November News Bulletin.

Dr William P. MacKay, Department of Entomology, Texas A&M University, College Station, Texas 77843, wrote to Dr Horning late last year and requested specimens of Dolichoderus (Hypoclinea) spp. (Formicidae). He might need specimens for about two years and is very interested in interchanging ant species.

(John Macdonald assures me that if more than one hymenopterist responds to this appeal then the apostrophe in the title will move one space to the right - Ed.)

AN ILLUSTRATED GUIDE TO THE GENERA OF ORB-WEAVING SPIDERS IN AUSTRALIA

by Valerie Davies

59 pages

In the MEMOIRS OF THE QUEENSLAND MUSEUM

Volume 25, part 2

ALSO IN THE SAME ISSUE:

New species and genus of ruteline (Coleoptera) (P. Allsopp). Three new spiders of Stiphidion (V. Davies). New species of Polyrhachis (Formicidae) and a species review of New Guinea and Australia (R. Kohout). Nomenclature changes and new Australian records in the ant genus Polyrhachis (R. Kohout). An Australian species of Bittacus (Mecoptera) (K. Lambkin). A re-examination of Triassic Lithosmylidia from Queensland with notes on Mesozoic 'osmylid-like' fossil Neuroptera (K. Lambkin). New species of Dilompus (Hemiptera) (M. Malipatil). Mating behaviour of the Australian mygalomorph spider Australothele jamiesoni (R. Raven). The genus Aristaenetus (Hemiptera) (T. Woodward and J. O'Donnell).

ORDER FROM: The Editor, Memoirs of the Queensland Museum, PO Box 300, South Brisbane Q 4101, AUSTRALIA.

Memoirs of the Queensland Museum Volume 25, part 2, 237 pages.
$25.00 (A) per copy

BOOK REVIEW

Australian Tropical Butterflies

Text by Peter Valentine, photography by Clifford and Dawn Frith. 1988. Pp. i-iii, 1-71. Tropical Australia Graphics: Paluma, Queensland. $11.95.

Clifford and Dawn Frith have presented for the first time, photographs of living representatives of the 6 families of butterflies occurring in Australia. One hundred and twenty-nine superb full colour photographs of 118 species of Australia's tropical butterflies are presented in this soft covered book, oriented primarily towards the naturalist and amateur lepidopterist.

The book consists of the preface and introduction (2 pp.) in which basic information on differences between butterflies and moths, biology, behaviour, classification and photography is presented, with the body of the book comprising photographs and accompanying text (66 pp.) dealing with individual species.

In the main text, species are grouped into six habitat types: -- upland rainforest, lowland rainforest, rainforest edge and vine thicket, savannah woodland, coast and wetlands and urban, rather than the usual family grouping. The vernacular name is emphasised and is followed by the scientific name. A photograph of each species, either of a newly emerged adult butterfly or of wild individuals in a natural situation, is accompanied by brief notes covering adult behaviour, distinguishing characteristics, larval food plants, adult behaviour both in flight and at rest, and distribution.

Apart from one or two typographical and grammatical errors there are only minor critisisms. While up to three subspecies of some species occur in the tropics, subspecies names are not given for any of the butterflies illustrated; some photographs are overexposed (p. 40, p. 68) while one or two are mostly out of focus or blurred (p. 39, p. 67); sometimes there appears to be a deliberate vagueness with information (e.g. the larval food plant of the regent skipper) and the index lists only common names.

These critisisms do not detract from the usefulness of the Frith's excellent photographs and Peter Valentine's biological information. The book is highly recommended to all those with an interest in butterflies, insects and natural history.

Greg Daniels
University of Queensland

COMING EVENTS

1st International Symposium on the Chromatography and Isolation of Insect Hormones, Pheromones and Related Compounds

To be held at University of Reading, UK, on March 21-23, 1989. Contact: Dr A.R. McCaffery, Department of Pure and Applied Zoology, University of Reading, Whiteknights, Reading RG6 2AJ, UK.

6th International Symposium on Trichoptera

The meeting will be held in Lodz and Zakopane, Poland, on 11-16 September 1989. The Chairman of the Organizing Committee is Mr Cezary Tomaszewski, Uniwersitet Lodzki, Instytut Biologii Srodowiskowej, ul. Banacha 12/16 PL - 90-237 LODZ, POLAND. Registration forms to be sent before 30 September 1988; forms and other information available from Dr A. Neboiss, Department of Entomology, Museum of Victoria, 71 Victoria Crescent, Abbotsford, VIC 3067.

Advanced Methods in Medical and Veterinary Vector Control

An intensive, residential, post-experience course to be held at the Imperial College's Research Laboratories at Silwood Park on the outskirts of London for six weeks from January 29-March 11, 1989. This is an advanced and comprehensive course presented by leading international authorities co-ordinated jointly by the London School of Hygiene and Tropical Medicine and Imperial College. Cost is 3,800 pounds sterling which includes full accommodation and meals. Enquiries to:

Continuing Education Centre
Room 321
Sherfield
Imprial College
LONDON UK

Whose Name? What Specimen? A Workshop on Centralized Databasing of Scientific Names

This workshop is being convened in Canberra on October 12-14, 1988 by the Bureau of Flora and Fauna. It will take place concurrently with various meetings of the International Union of Biological Sciences and the International Commission of Zoological Nomenclature. Details are available from Dr R. Hnautiuk, Bureau of Flora and Fauna, GPO Box 1383, Canberra, ACT 2601.

RESEARCH REQUEST

Two CSIRO divisions, The Division of Wool Technology and the Division of Entomology are co-operating in a joint venture, funded by the Australian Wool Corporation to establish new principles of moth proofing. One of our priorities is to identify which species are responsible for damage in domestic situations, and their distributions and seasonal variation. We are particularly interested in obtaining live material to set up laboratory cultures. If you discover an infestation in your home, or are alerted to any please contact Juleen Cavanaugh at Canberra 062-464911. Alternatively, send live material (eggs, larvae, pupae and any adults) along with, if possible, a sample of the material that the insects are feeding on. Please include information on the precise locality and situation that you found them in.

Juleen Cavanaugh
CSIRO Division of Entomology
GPO Box 1700
Canberra ACT 2601

NOTICE

MATERIAL IN THIS NEWS BULLETIN DOES NOT NECESSARILY REPRESENT THE VIEWS OF THE AUSTRALIAN ENTOMOLOGICAL SOCIETY, AND SHOULD NOT BE REFERRED TO OR REPRODUCED WITHOUT PERMISSION OF THE AUTHOR OF THE MATERIAL.

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Entomology Beyond the Bicentennary

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When I was asked by the organisers of this symposium to speak on the topic of "Entomology Beyond the Bicentennary", I immediately thought of an earlier occasion when I was asked to speak in the Jubilee Symposium of the Entomological Society of Queensland on "What of the next 50 years?" That was 15 years ago when the social setting in which Entomology and Science were operating was vastly different from the present.

It is not possible to consider the future of Science out of its context in society. Science is an activity supported by society in which individuals find the opportunity to pursue interesting careers in extending the boundaries of knowledge, and in applying this new information to the service of society. As a subset of science, entomology is constrained by the economic state of the country and society's expectations of what science can provide.

In this talk I want to look at the present position and to see it as a stage in the evolution of science in society. An understanding of our present position requires an appreciation as to how we have arrived at it. Lastly I will attempt somewhat rashly to indicate some possible developments which we may encounter "Beyond the Bicentennary".

We have seen recently that economies wax and wane. The late 60's and early 70's were the golden years of the postwar period, only marred by our involvement in the Vietnam war. It was a time when Australia was still the lucky country. The economy was buoyant with commodity prices high and mining enjoying a boom. Do you remember the Poseidon nickel adventure? Its shares rocketed from a few dollars to two hundred and eighty dollars and back again. They are currently listed at two dollars thirty (1). Newspapers carried stories of office boys making small fortunes on the stock market. In those days it was still possible to be employed as an office boy.

We were enjoying virtually full employment (Fig. 1). School leavers faced a choice of jobs and the small number of unemployed were mainly in between jobs. Today's school leavers are frustrated in finding employment and we have a substantial number of long term unemployed. The catch-cry in education then was training for leisure in a society where automation would replace labour. Unfortunately it was never clear how the wealth of society would be distributed to enable leisure to be creative. Ample leisure on welfare is rarely creative.

At that time entomology was fast coming of age. This society was founded in 1965 with the able support of the Entomological Society of Queensland then a mature matron of 42. The CSIRO Division of Entomology was, and still is, the second largest in the western world being

exceeded only by the entomology section of the USDA. All the Australian States had internationally recognised Entomology Branches, the largest being here in Queensland (Fig. 2). The long awaited 'Insects of Australia', edited anonymously by the highly respected Ian Mackerras, appeared in 1970. Our crowning glory was the successful mounting of the XIVth International Congress of Entomology in Canberra in 1972.

Earlier in the 1920's and 30's Entomology was taught as a modest component of Zoology. But the applied importance of Entomology and Parasitology was being recognised with separate departments being established in the London School of Tropical Medicine, and a combined department in the Liverpool School. Athol Perkins was appointed as the first lecturer in Entomology in the University of Queensland in

FIG.1 Unemployment in Australia 1952-1986

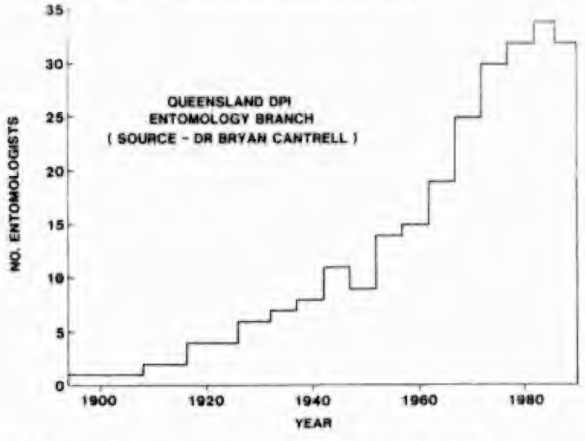

FIG.2 Entomologists in Queensland DPI 1900-1980

1926 (2), and a year later James Davidson joined the newly established Waite Institute of Agricultural Research (3). In 1935 the "Department of Zoology" at Imperial College London added "and Applied Entomology" to its title. Entomology had become recognised as an independent discipline and a suitable activity for a middle class professional.

The even earlier period had been the age of the keen wealthy amateur, who often pursued his hobby with determination. An obvious example is Sir Joseph Banks (1743-1820) who financed his part in the voyage of the Endeavour at a personal cost of 10,000 pounds sterling at 1770 values, equivalent today to ten million dollars. He recruited the outstanding Swedish botanist, Carl Solander, as his scientific assistant, and employed three artists to illustrate his discoveries. He was further supported by four servants, two English, two negro, and to run down exotic game he took along two greyhounds (4).

Banks pursued his natural history vigorously and his house in London's Soho Square included an enormous herbarium, a separate museum for his collections of insects and other animals and the finest scientific library of the day with a catalogue of two thousand five hundred pages (4).

Throughout the 19th century the study of entomology remained the province of the well-heeled gentleman or lady (5). Charles Darwin (1809-1882) was a man of means and for most of his life he lived the comfortable well ordered life of an upper middle class Victorian male in his country mansion at Downe south of London (6).

We had our own noted 19th century amateur entomologists, such as Sir William Macleay (1820-1891) (Fig. 3) who funded a private collecting expedition to Cape York, Torres Straits and New Guinea in 1875, and established the Macleay Museum. He gave the contents of the museum to Sydney University together with an endowment to pay the salary of a curator (7). Amateur entomologists have remained a recognisable group in New South Wales for more than 100 years and maintain their identity in the Entomology section of the Royal Zoological Society (8).

The last of the wealthy amateur collectors were Walter (1868-1937) and Charles Rothschild (1879-1923) who, at the turn of the century, housed their extensive zoological collections in

FIG.3 Sir William Macleay

their private museum at Tring west of London (9). Charles Rothschild's extensive collection of fleas contains 85 per cent of the world's species (10). Its incomplete catalogue runs to five volumes totalling two thousand five hundred pages with three volumes to come but no cataloguers in sight (11).

Karl Jordan (1861-1959) was employed by the Rothschilds at Tring for more than 60 years, publishing over 450 papers on Coleoptera (Anthribidae), Lepidoptera (Sphingidae) and Siphonaptera (12).

In the present day western world the new gurus are the economists, charged with producing Utopia through the creation of the perfect economy. Money has become the dominant and often the sole criterion in the assessment of society's activities. Governments are pressured to reduce taxes by reducing their spending in all areas including scientific research. The catch cries are user pays, cost effectiveness and relevance but without defining relevant to what. Government approach here and in the UK is to reorganise drastically the existing structure of training and research.

In our perestroika the Minister for Science becomes Minister for Science, Customs and Small Business in a Department of Industry, Technology and Commerce. The ABRS which has supported many entomological studies is in a Department of Arts, Sports, Environment, Tourism and Territories. Fresh water ecology will be funded through the Australian Water Research Advisory Committee within a Department of Primary Industries and Energy. The future of the ARGS is uncertain (13). It may come under the new Australian Research Council which will have an independent role in evaluating research proposals and advising John Dawkins the Minister for Employment, Education and Training (14, 15).

The Australian Academy of Science has observed that these changes have increased Commonwealth expenditure by 4.3% while increasing funds for scientific research by only 0.8% (15). A triumph for bureaucracy. The situation is summed up in a quotation erroneously attributed to Petronius Arbiter a first century Greek. He is alleged to have written "We tend to meet any new situation by reorganising: and a wonderful method it is for creating the illusion of progress while producing confusion, inefficiency and demoralisation" (16, 17).

The Minister proposes to abolish the Commonwealth Tertiary Education Commission, which currently has the opportunity to put its views directly to Government, and replace it with a National Board of Employment, Education and Training answerable to the Minister alone and on which tertiary representation will be minimal (14). The intention is to remodel the universities directing new places into areas of future economic growth. Tenure, which at present applies to 70% of university staff, will be reduced aided by the fact that half the present academic staff will retire in the next 10-15 years (18, 19).

It is chastening to realise that while increased contributions are being expected from universities their share of Gross Domestic Product fell by a third between 1974 and 1984 and has not risen since. In the same period expenditure of TAFE colleges nearly doubled, to just over half that directed to higher education (Fig. 4). TAFE courses are to be restricted to technical training with no leavening of general education leading to the production of ignorant artisans.

EDUCATION FUNDING

PROPORTION OF GDP

YEAR	(a) UNIVERSITIES & CAE's	(b) TAFE COLLEGES	RATIO (a : b)
1974-75	1.73	0.31	5.58
1979-80	1.32	0.47	2.81
1984-85	1.13	0.58	1.96
CHANGE 1974 to 1984	- 39%	+ 87%	

SOURCE : AUSTRALIAN 17.X.1987

FIG.4 Education funding in Australia 1974-1985

CSIRO FUNDING

1987 $364 MILLION

1988 $354 MILLION

DECREASE (2.3%) + INFLATION (7-8%)

= EFFECTIVE DECREASE (10%)

SOURCE : NATURE 329 : 279 24.ix.1987

FIG.5 CSIRO funding in Australia 1974-1985

Universities have been urged to seek outside funding. Four years ago the University of Queensland established Uniquest to market the expertise and discoveries of staff. It made a profit of $1.5 million in 1986 ($2.0 million in 1987 (20)) from which twelve generous postgraduate awards have been established (21). It is a sign of the adaptability of fellow zoologists that the General Manager, David Millhouse, was trained as a marine biologist.

CSIRO has a tradition of funding itself through royalties from patents but this did not protect it from a 10% cut in government funding (Fig. 5). The Division of Entomology has successfully avoided subdivision and has maintained itself by increased support from commodity funding and undertaking projects for ACIAR. It has fewer tenured and more contract staff.

A new phenomenon in our tertiary education is the establishment of a private university on the Gold Coast funded jointly by Alan Bond and Japanese investors (22, 23). Students will be fee paying with $36,000 being mooted as the likely cost of a three year degree course. Courses will be strongly biased towards technology and its commercial exploitation in new industries. Hence the close proximity of the University and Research Park. It represents an imaginative venture which, providing quality is maintained, should prove profitable. It will differ from other universities in that much of its research will have potential industrial application and be protected as commercial secrets, hindering the free flow of ideas which should characterise an academic community.

Very similar pressures are being exerted on tertiary and scientific communities in UK where a new element has entered into funding. The funding body will enter into educational contracts with universities or individual departments before deciding the level of support for the next period. A similar proposal is under consideration by John Dawkins with competitive bids being made by universities and CAE's (24). Can we forsee a time when Hugh Paterson and Dudley Pinnock will engage in a Dutch auction with the Federal Minister. Each offering to do the job more economically than the other, perhaps offering a baker's dozen, training thirteen entomologists for the price of twelve. It may save money but it will do little for quality.

Turning to the future. If our needs are to be heard at levels where decisions are made we must join forces with other scientists. Two fledgling organisations with the potential to form useful pressure groups already exist. The Federation of Australian Scientific and Technological Societies (FASTS) operates at the group level and the Australian Institute of Biology at the individual level. The technological bias implicit in FASTS may not make it a suitable vehicle for our representations.

The UK Institute of Biology was launched in 1950 when a modest group of biologists gathered in a drafty lecture theatre in Kings College London to support the creation of a new institute. It is now a highly respected professional body which awards its own degree-level qualifications. It has upward of sixteen thousand members and twenty branches in the UK, Hong Kong and Zimbabwe, giving it a far greater influence than any individual specialist society (Fig. 6).

In both UK and Australia the governments have issued draft proposals for the reorganisation of scientific research. In UK the Institute of Biology was able to present a considered response. In Australia we have no such organisation to speak on behalf of biologists and there will be no united response to the green paper.

Two years ago the Australian branch became a separate Institute and it could become the channel for making the voice of entomology heard. The key to the success of the UK Institute was the appointment of a full-time paid Secretary, the hard-working Dax Copp, a physicist by training, who created a body whose statements would be recognised by governments as authoritative and balanced. The high standing of the Institute has been confirmed by its recent incorporation by Royal Charter bringing it into line with the much older Institutes of Physics and Chemistry. Too much should not be expected of the Australian Institute in its early years. Membership should be regarded as a contribution to the development of a professional body to press the case for biology.

SOCIETY MEMBERSHIP

AUSTRALIA		GREAT BRITAIN	
Aust. Ent. Soc.	733	R. Ent. Soc.	1945
Ecol. Soc. Aust.	420	Brit. Ecol. Soc.	4373
Inst. Biol. Aust.	ca 200	Inst. Biol.	16,000

FIG.6 Comparative society membership - Australia/UK

AUSTRALIAN ACADEMY OF SCIENCES

CORRESPONDING SCIENTIFIC SOCIETIES

NATIONAL COMMITTEE	AUSTRALIAN SOCIETY ENTOMOLOGY	PARASITOLOGY	ECOLOGY
Agriculture, Forestry & Soil Sciences	+	+	-
Animal & Veterinary	+	+	+
Biochemistry	-	+	-
Environment	-	-	+
Immunology	-	+	-
Medicine	-	-	-
Microbiology	-	+	-
Plant Sciences	-	+	+

Source Academy Year Book 1987-1988

FIG.7 Society correspondents to Academy national committees

It might be thought that the Australian Academy of Sciences should perform this function but I see that body as having a more judicial role. Like the High Court of Australia the Academy should be available to offer expert opinion on the validity of conflicting claims. It is the job of the Institute to get into the fray and press members views with vigour. It must maintain a PR presence in Canberra.

Our Society must adopt a higher public profile. The Academy has a number of specialist National Committees to which Societies may seek corresponding membership. The Australian Society of Parasitology is associated with six National Committees and our Society with two (Fig. 7). Is this a fair reflection of our interests?

The reputation of Entomology as a profession depends on its practitioners maintaining high scientific standards. The basic tenet of science is that its conclusions are based on experimental observations which are verifiable by being repeatable. In biology this is not always possible. Many field experiments are unique. The conditions under which they were done cannot be reproduced. Sibling species complicate repetition of field studies in different areas. Laboratory colonies of the same species are likely to differ genetically from one institution to another.

Allegations of scientific fraud have been around for many years. While he was a student Ronald Fisher first claimed that the figures on which Mendel based his two basic laws of genetics had been doctored. He showed then and later (25) that the probability of such close agreement between experimental results and theory was so impossibly small as to question their accuracy. This view has been confirmed by Edwards (26) in a recent reanalysis of Mendel's data. Interestingly neither Fisher nor Edwards believe that Mendel was himself involved in the doctoring.

Today scientific fraud appears to be on the increase. Up to 1980 only four major cases had been detected but since then thirty two cases have been exposed (27). Pressure to publish is likely to increase the incidence of fraud. It is a short step from modelling a system complete with experimental error to presenting the model as actual experimental observations. Providing the conclusions are sufficiently pedestrian no suspicions are likely to be aroused. It is on minor peripheral matters that doubts arise.

Darwin queried the veracity of an account of the close interbreeding of rabbits over many generations not on the results reported but on the fact that no accidents occurred during the many years of experiment (6). It turned out that the account was quite false. In a more recent case exposure resulted from the fact that the number of Petri dishes claimed to have been used in the experiment exceeded the number in the laboratory (27).

We are entering an era of Readers Digest science as entomologists become increasingly dependent on Abstracting Journals for keeping up to date. The abstract is usually that of the author, giving the most favourable interpretation of the results presented. The recent trend for editors to require that tables be self explanatory without reference to the text further discourages busy scientists from actually reading papers. It would be interesting to know when members of this audience last read a scientific paper from start to finish. This places a heavy burden on referees. They are likely to be the only people who read papers in their entirety. Editors are concerned with layout, presentation, length of issue and cannot accept the added burden of responsibility for the authenticity of every paper published.

I have the impression that abstracts are being reduced in length to suit the requirements of the commercial abstracting journals. Twenty years ago papers ended with a summary in which the main conclusions were presented in some detail. Today many abstracts are singularly lacking in detail. It is essential to check statements in an abstract with the text in the paper. It is not unknown for the two to differ or for the reader to have misunderstood a phrase. I recently checked an abstract which stated that tabanids were mechanical vectors of a virus, an unexciting claim but inaccurate. In the original paper tabanids were never mentioned. The vectors being referred to simply as blood-sucking flies, which in the area involved would have included four families of Diptera (28).

The future for entomologists may not be rosy but it is not as dark as it was for students of honours zoology at University College London in 1936 when they were informed by the professor that they could take the course on the understanding that there were no jobs on graduation Six persisted. The first class honours student got married and raised a family, the third class graduate become Chief Zoologist to the Ministry of Agriculture, one of the second class was elected with her husband to the first joint fellowship of the Royal Society of London, two became teachers and one came to Australia.

Sir George Porter, President of the Royal Society of London, has stressed the need for university departments to provide 'sound training in fundamentals' (29). In keeping with this the department at Imperial College London for long associated with the training of entomologists has, after nearly fifty years, changed its title from "Zoology and Applied Entomology" to "Biology and Applied Biology". Entomologists must be first and foremost well trained biologists. We are fortunate in that most aspects of biology can be taught within the context of entomology taking advantage of the wealth of insect material available.

Biologists and entomologists in particular have an interest and curiosity about their science independent of financial reward. Three types can be recognised — the applied, the pure or basic and the rare theoretician. In the future one can expect the majority of professional entomologists to be applied entomologists working as members of teams investigating particular problems. Teams and problems will change and applied entomologist must be flexible enough to work productively within different formats. They will be on contract terms and paid at a higher rate than tenured pure entomologists working mainly

FIG.8 Peter Mitchell, Nobel Laureate

in museums and tertiary institutions.

My colleague in the Zoology Department of Edinburgh University, Peter Mitchell (Fig. 8), is an example of an experimental theoretical biologist. When ill health forced him to resign from the University he moved to Cornwall where he used his modest means to restore and adapt an 18th century manor as his personal research laboratory. He financed it through a trust fund, a tiny government grant and the proceeds from a herd of dairy cows. Peter's persistence was rewarded in 1978 by the award of the Nobel Prize in chemistry for his chemiosmotic theory coupling the respiratory and photosynthetic chains and the ATPase complex (30, 31).

We can no longer assume that science has an undisputed role in society and we need to present our case factually and vigorously, combating sloppy thinking. We regard research as the highest activitiy in which we engage but the term has been debased. Every school child that consults an encyclopaedia in the library is said to be doing research. We need to coin a new term which will embody both the originality of research and its purpose which is the adding of new material to the store of existing knowledge. This activity must be clearly distinguished from the acquisition by a person of existing knowledge which is new to the individual.

We need to oppose the current trend of presenting plausible hypotheses as proven facts. Such ideas abound in popular health and environmental promotion. It is enough in health promotions to have a few successes and in ecology to have a tenuous connection between cause and affect. Some of the hypotheses being propagated may be true. Our criticism should be directed at the inadequacy of the supporting evidence and not at the truth or falsity of the particular hypothesis.

We must be consistent in our presentations. The media loves nothing better than to expose inconsistency in public utterances. To minimise this in the USA an independent Media Resource Service was set up in 1980 in New York, and later the Ciba Foundation set up a similar service in London (32). We could do with a comparable independent service in our country.

Our research has been constrained by the available sources of funding. Applied entomologists have had the greatest scope through the various commodity boards and the RCDF which is soon to be abolished. Pure entomologists have been restricted in the past to the ARGC and more recently the ABRS has favoured certain taxonomic studies. We need to encourage our wealthy enterpreneurs, while they still have their wealth, to consider seriously emulating their predecessors Ford, Rockefeller, and Nuffield and set up permanent charitable bodies to fund basic research. This is a more philanthropic approach than the creation of a profit making technological university.

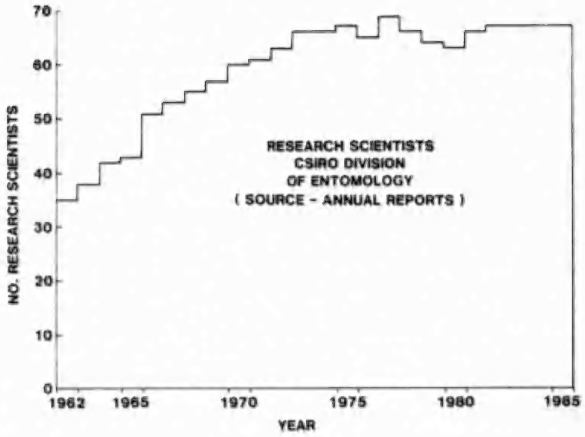

FIG.9 CSIRO research scientist entomologists 1962-1985

The level of employment of professional entomologists appears to have peaked and to be at best holding steady if not declining slightly (Fig. 9). It is likely that there will be little increase in employment opportunities in the immediate future. We should avoid considering ourselves to be an endangered species but actively present entomology to a wider public audience. It is their support which will lead to increased government and private funding. Biological societies need to proseltyise among the community. In UK the Royal Entomological Society sees its future role as encouraging amateurs in the serious study of entomology (33). As we saw in the Society's photographic competition we have a wealth of material with which to arouse the interest of the public to the breadth of our science. We should exploit the potential of videos, films and electron microscopy to demonstrate the complexity of the insect world. We must aim to inform and educate people by arousing and sustaining their curiosity of insect life and avoid the bland presentation which characterises much of the biological section of Univations at Expo 88.

We should counter what Harry Hoogstraal (34) had called 'the flippant attitude to species and species differentiation which is commonplace in this age of molecular biology' and emphasise the uniqueness of species and their ecological roles. We should not refrain from speaking out on ecological issue even if we have to preface our remarks with a confession of ignorance on certain aspects. It has been the silence of professional ecologists and the reluctance of ecological societies to speak out on environmental issues which has allowed the greenies to take over the role of environmental specialists.

It promises to be an exciting future requiring us to be as persistent as the blattids and as abundant and adaptable as the Coleoptera. I wish you all well.

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